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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR AND DEALER

Published by The Miller Publishing Co., Minneapolis, Minn.

Vol. 6

Publication at Minneapolis, Minn.  
Accepted as Controlled Circulation

MARCH 23, 1959

Subscription Rates:  
\$5 for 1 year, \$9 for 2 years

No. 12

## Potash Deliveries Show Rise in 1958

**10% Gain Registered  
Over 1957 Shipments**

WASHINGTON—Deliveries of potash for agricultural purposes in the U.S., Canada, Cuba, Puerto Rico and Hawaii by the eight principal American producers and the importers totaled 3,805,057 tons of salts containing an equivalent of 2,229,724 tons K<sub>2</sub>O during 1958, according to the American Potash Institute. This was an increase of 10% in salts and K<sub>2</sub>O over the same period in 1957.

Continental U.S. took 2,090,659 tons K<sub>2</sub>O, Canada, 89,396 tons, Cuba, 16,482 tons, Puerto Rico, 16,528 tons, and Hawaii, 16,659 tons K<sub>2</sub>O. These figures include imports from Europe of 237,269 tons K<sub>2</sub>O. Exports to other countries were 228,156 tons K<sub>2</sub>O, an increase of 11%.

Deliveries of potash for non-agricultural purposes amounted to 118,707 tons K<sub>2</sub>O, a decrease of 8% under 1957. Total deliveries for all purposes were 4,379,455 tons of salts containing an equivalent of 2,576,587 tons K<sub>2</sub>O, an increase of 9% in salts and K<sub>2</sub>O.

In the U.S., agricultural potash was delivered in 46 states and the District of Columbia. Illinois with more than 200,000 tons K<sub>2</sub>O was the leading state followed in order by Indiana, Ohio and Georgia, each

(Turn to POTASH, page 25)

## Korea Receives ICA Fertilizer Grant

WASHINGTON—International Cooperation Administration has issued a \$1,100,000 authorization to Korea for procurement of phosphate fertilizer. The contract period ends next July 31, and terminal delivery date is Sept. 30. Source is worldwide.

## Effects of Irrigation on Cotton Insect, Disease Control Studied At Alabama Pest Conference

AUBURN, ALA.—Irrigation increases problems in controlling insects and diseases of cotton and requires better management for success. This was brought out in a panel discussion during the 12th annual Alabama Pest Control Conference held on the Alabama Polytechnic Institute campus here.

Disease problems that are more serious in irrigated cotton were described by Dr. A. L. Smith, U.S. Department of Agriculture pathologist working cooperatively at the API station. He said boll rot, bacterial blight and parasitic nematodes may

## Opponents Continue Attacks on USDA Spray Program

MEMPHIS—Attacks on the U.S. Department of Agriculture's program of spraying dieldrin to control the white-fringed beetle here continue on a steady, week-to-week basis, and the Press-Scimitar, local Scripps-Howard daily, is continuing to report them in detail.

The majority of the stories are carried in the "Gun and Reel" column, written by Paul Fairleigh. The column of March 12 began with:

"Continuation of the U.S. Department of Agriculture's lethal insecticide spray program could eventually destroy the small game and bird life of our nation," J. B. Jackson, field representative of the National Wildlife Federation, said.

No mention was made in the remainder of the story as to where and under what circumstances the Jackson statement was made. However, the column quoted the National Wildlife Federation representative as saying he had personally inspected areas sprayed (with dieldrin) in Alabama, Georgia, Florida and Texas for the fire ant and that he was shocked by the wholesale destruction of fish, game, birds, domestic fowls, dogs and cats.

The story quoted Mr. Jackson as stating "The American people have more to fear from the insecticide spray program than they have from the possible invasion of a foreign power."

In other developments, the Tennessee Conservation League at its recent convention in Nashville passed a resolution authorizing a letter to congressmen asking them to put a stop to the aerial insecticide spray program of the USDA.

The Press-Scimitar continued to carry a running account of the local clubs and organizations seeking to "stop the poison spray program in the

(Turn to SPRAY PROGRAM, page 25)

## Brighter Farm Income Situation Improves 1959 Sales Outlook

By JOHN CIPPERLY

Croplife Washington Correspondent

WASHINGTON—The attractive aspects of the farm income position, previously noted by Croplife on the basis of preliminary reports, was confirmed last week by the U.S. Department of Agriculture's Farm Income Situation report which states that net farm income for 1959 totaled \$13.1 billion, up 20% from 1957.

It must be noted, however, that in

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## Increased Corn Acreage Seen as Industry Boon

WASHINGTON—Farmer intentions to plant corn this year have been assessed by the U.S. Department of Agriculture at approximately 84 million acres in its annual crop intention report. This acreage is above the previously forecast 80 million acres, and indicates a lively market for the pesticide and fertilizer industries.

The biggest increases in corn acreage over last year are found in the old commercial Corn Belt where the price support level will be on a national average basis of about \$1.12 bu. The response of the commercial Corn Belt on this basic price is as follows (by production based on acreage intentions): Ohio 3.8 million, Indiana 5.2, Illinois 10.2, Minnesota 6.5, Iowa 12.1, and Missouri 4.4.

Nebraska shows a new corn acreage of 6.8 million acres and most other states including the former non-commercial Corn Belt states are increasing corn acreage by a substantial amount. This increase appears to have been taken off the soybean crop in the major Corn Belt states and at the expense of grain sorghums in the fringe of the Corn Belt.

Given good weather conditions and the present favorable outlook for planting it seems evident that an appropriate use of plant food on the corn crop will follow.

## Iran Invites Bids For Fertilizer Supply

TEHRAN, IRAN—Bids are invited by the Plan Organization of Iran for the supply of 23,000 metric tons of chemical fertilizer.

To be in no later than April 21, the bids include 7,000 tons of urea, 3,500 tons of ammonium nitrate, 2,500 tons of potassium sulfate, 1,000 tons of ammonium sulfate, 8,000 tons of superphosphate and 1,000 tons of ammonium phosphate.

the last two quarters of 1958 the pace of increase in farm income slid off.

Receipts from cattle and calves were the highest on record in 1958, with higher prices off-setting smaller marketing to boost cash receipts for that phase of the farm economy by more than 19% above those of 1957.

In the food and feed grain crop area in 1958, USDA says that larger marketing of wheat more than offset lower market prices. Receipts from feed grains were up 19% from their 1957 level, a large part of which is attributed to sorghum marketings. On the sorghum front USDA reports cash receipts from that crop advanced 120% over the 1957 high.

Cotton cash receipts increased by one fourth. A major part of this gain must be attributed to an increase in cotton yields which were 12% higher than the previous record.

The January, 1959 preliminary estimates of cash receipts from farm marketings total about \$2.7 billion, with livestock and crops about splitting this total evenly. For livestock USDA reports for January, 1959 cash receipts of about \$1.5 billion while crops were about \$1.2 billion—little change in either from 1958. Seasonal declines from December to January followed a normal pattern.

It all adds up to the healthy sales field for the chemical industry. There would appear to be the presence of the money in farmers' pockets to take on adequate fertilizer and pesticidal chemical supplies. In previous years trade sources here have used the cash position of the farmer as a good index of his attitude toward the chemical industry salesman.

Thus far there has been no major

(Turn to SALES OUTLOOK, page 25)

## USDA Cites Need For Boll Weevil Control Research

WASHINGTON—Improvement in methods of controlling boll weevils is one of the most important present research needs, according to the U.S. Department of Agriculture's cotton and cottonseed research and marketing advisory committee, which held its annual meeting here recently.

Committee members called boll weevil the "No. 1 enemy" of efficient cotton production in many areas of the Cotton Belt. Unless more effective and less expensive weevil control measures are found, they added, the full cost-reducing potential of new cotton production methods will not be realized.



**OPERATION SOIL TEST**—Shown above are some of the activities of Area Operation Soil Test, conducted in three North Carolina counties. At left, C. D. Peedin, Halifax County agricultural agent, delivers soil sample boxes and information sheets to Sam Manning, fertilizer dealer and community leader in the program. In the second photo from the left, soil samples are delivered by Joe Ellen and John Griffin at one of the pick-up stations in Nash County.

Second from right, J. C. Powell, left, Edgecombe County agricultural agent, and N. L. Sugg, Planters Cotton Oil Co., chairman of the area steering committee, show a farmer how to take a soil sample and fill out the information sheet. At right, a truck load of samples from Halifax is delivered by Mr. Peedin to C. D. Welch, agronomist, soil testing division, North Carolina Department of Agriculture.

## FOR BIGGER FARM PROFITS

# Soil Test Program Conducted in Three North Carolina Counties

By W. C. WHITE and  
E. J. KAMPRATH\*

There has been a lot of talk in North Carolina about Hoke County's "Big Test" program in which every farmer in the county took at least one soil sample in 1958. The principal idea behind such a program is that a soil test is one of the farmer's most valuable tools for improving efficiency in crop production. With this idea in mind, some local agricultural leaders in Edgecombe, Nash and Halifax counties in North Carolina organized an "Area Operation Soil Test." These counties are located in an intensive tobacco, cotton, peanut and corn farming area in North Carolina's Coastal Plain.

The county agricultural agents, leaders from fertilizer industries, along with representatives of banks and civic organizations got together early in January to consider the program for the area. At this meeting they organized an area steering committee for the purpose of coordinating efforts of the three counties.

Plans were also made for setting up points throughout the counties for distributing soil sample boxes and information sheets and also to serve as collection points for the samples. There were 40 to 70 such collection points in each county. A schedule for

collecting the samples and delivering them to Raleigh was arranged.

With these plans the leaders returned to their counties and began organizing their programs. The county agricultural agents—C. D. Peedin of Halifax, J. C. Powell of Edgecombe and J. P. Woodard of Nash—took the responsibility for organizing the program at the county level. In the meantime the area steering committee, with N. L. Sugg of Planters Cotton Oil Co. at Rocky Mount serving as chairman, prepared publicity material which could serve the area. The Rocky Mount Chamber of Commerce and local bankers contributed much towards promoting the program.

About a week after the area strategy meeting each county had a "kick-off" meeting for its agricultural workers, fertilizer industry representatives, farm leaders and representatives of local businesses. College extension specialists and representatives from the soil testing division, North Carolina Department of Agriculture, presented information at these meetings on methods of soil sampling, importance of properly filling out information sheets and the purpose of soil testing as a guide in determining fertility requirements.

County agricultural agents explained the details of the county organization including a list of collection points, how material would be distributed through them, a schedule for collecting the samples and delivering them to Raleigh and dates for the

duration of the soil sampling drive.

During the week of each county "kick-off" meeting every farmer and fertilizer dealer in the three-county area had an opportunity to hear of the plans for the program through various means of publicity. Local radio and newspaper facilities were used intensively to explain the program. Emphasis was placed on the objective of the program—to help farmers increase their profits from crop production through more efficient fertilization.

To acquaint the farm leaders and fertilizer dealers with the facilities available for helping farmers, a tour was arranged by the area steering committee. The group visited the laboratory of the Soil Testing Division, North Carolina Department of Agriculture and the research facilities of the soils department, North Carolina State College.

Samples were collected and delivered weekly to the soil testing division, North Carolina Department of Agriculture at Raleigh. As many as 2,000 samples were brought in during a week. By the final pickup date in February the three counties had collected approximately 18,000 soil samples. The county agricultural agents estimated that of the farmers who took samples about one half of them had taken one for the first time.

The planning, publicity and sampling phases of the program have been finished. At the present time the follow-up phase of "Operation Soil Test" is underway. Actually, this is the most important phase of the program. Farmers will realize the value of soil testing only when they understand the results and integrate them with other production and management practices.

Follow-up meetings in each of the counties provided fertilizer dealers, agricultural workers and others an opportunity to learn how soil test reports can be explained to farmers.

In these meetings agronomists of the soil testing division, North Carolina Department of Agriculture and extension soil specialists explained the two major parts of a soil test report—the results of the soil test showing the fertility level of a particular sample and the fertilizer recommendation.

These meetings allowed fertilizer dealers to become thoroughly familiar with the soil test reports. They consequently are in a better position to explain the soil test reports and to answer questions of farmers when ordering fertilizer. In the county follow-up meetings emphasis was also placed on the importance of applying recommended lime. About one half of the soil samples tested showed a need for lime.

The area steering committee, made up of the three county agricultural agents and fertilizer industry representatives, is taking the leadership again in helping follow-up the soil sampling drive. Increased efforts are being made to encourage farmers to use recommended rates of lime. The Rocky Mount Chamber of Commerce, cooperating with the area steering committee, printed 1,500 posters illustrating the value of lime.

Plans for the summer call for a

number of demonstrations and tours, and for a pasture program in the fall with emphasis on soil testing as one of the first steps.

## CHINESE FERTILIZER

**TOKYO**—A bacterial fertilizer, utilizing cheap and plentiful materials, is reported to have been developed by Red China. The Chinese say a top researcher at the Forestry and Soil Research Institute in Peiping has manufactured a nitrogen-fixing bacteria fertilizer (azotogen) from burnt coal ashes and maize flour.



A. W. Austin, Jr.

Tom Hall

## L. H. Butcher Co. Adds Two to Sales Staff

**PORTLAND, ORE.**—A. W. (Bud) Austin, Jr., and Tom A. Hall have joined the technical sales staff of the L. H. Butcher Co., Portland, announced Lee R. Hansen, manager of the northwestern division.

The two men will reside in Yakima and cover the Yakima Valley fruit region.

Mr. Austin formerly owned and operated an orchard in Yakima and also operated a commercial agricultural spray service. He was employed by the Washington State Department of Agriculture as a horticultural inspector.

Mr. Hall also owned and operated an orchard in the Yakima area. He had previously been in the aerial crop dusting business since 1947 with Central Aircraft and Economy Helicopter Service.

Other company business included the transfer of Bud Radey from the company's Portland office to Medford, Ore., where an office and warehouse have been established. Arthur Bond was transferred to Portland to cover the Willamette Valley and Hood River areas.

## H. D. Grothusen to Head Tuloma Sulfur Sales

**TULSA, OKLA.**—A Tuloma Gas Products Co. sales supervisor, H. D. Grothusen, has been named to head the sale of sulfur to chemical and allied markets. The appointment came as a result of a reorganization in the company's sales department brought about by recent marketing expansion.

Tuloma, which formerly marketed only LP-Gas, recently expanded its nationwide marketing program to include sulfur and all natural gas liquids. The company, headquartered in Tulsa, now markets from more than 50 plants and refineries.



**AMMUNITION FOR GRASSHOPPER WAR**—R. E. McKenzie, left rear, provincial plant industry branch director for Saskatchewan's Department of Agriculture, watches R. E. Dorsey filling containers with dieldrin at Shell Oil's Toronto packaging plant for shipment to Saskatchewan. \$1,000,000 worth of the insecticide will be used this spring and summer to control an expected severe outbreak of grasshoppers in southern sections of that province. R. W. Hutton, center rear, agricultural chemicals manager for Shell, listens to H. Mitchell, assistant plant manager, explain the operation of the automatic filling machine.

\*EDITOR'S NOTE—Dr. White is extension agronomist, North Carolina State College, and Dr. Kamprath is director, soil testing division, North Carolina Department of Agriculture.

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## Demonstration Results Given at Pennsylvania Plant Food Session

UNIVERSITY PARK, PA.—Fertilizer demonstrations that have been coupled with good farm management held the attention of delegates at the recent annual Lime and Fertilizer Conference at Pennsylvania State University.

Extension specialists at the university who have been in charge of these demonstrations, in cooperation with industry, the host farmers and county agents, gave firsthand reports of results that suggested expansion of the program.

During the conference, the Pennsylvania Plant Food Educational Society, embracing both industry delegates and University agronomists, reorganized for 1959. Elected were: Murry C. McJunkin, U.S. Steel Corp., Pittsburgh, president; W. Wayne Hinish, Pennsylvania State University extension agronomist, vice president, and Rodger C. Smith, Eastern States Farmers Exchange, West Springfield, Mass., secretary-treasurer.

Fertilizer's effect on fruit trees

may take anywhere from 2 to 5 years to show up, it was stated by C. Marshall Ritter, research pomologist at Pennsylvania State University.

Mr. Ritter said nitrogen may take 2 to 3 years to be reflected in a fruit crop and potassium may take 3 to 5 years for its full effect. As for phosphorus problems which normally take years to change, "your son may correct them," he observed.

For nitrogen in apple orchards, Mr. Ritter suggested use of one fourth of a pound of 32% nitrogen carrier per each year of the tree's growth, on an acre basis. The same rate was recommended for phosphate. To get the most feeder roots, it should be spread down the rows under the limb-spread of the trees.

Mr. Ritter was enthusiastic about one year's results to date on peach tree fertilization at Penn State. He has produced a yearly average of 8.5 bu. of peaches per tree after seven years of continuous applications. The trees are fertilized with 17.5 lb. of ammonium nitrate, 350 lb. of 20% superphosphate, and 35 lb. of potas-

sium chloride on an acre basis. He cautioned that results are for only one year's production.

J. W. Mastalerz, research florist at Penn State, cited gibberellic acid for speeding up plant breeding programs in by-passing cold treatment in breaking dormancy of plants. He felt gibberellic acid might be useful in modifying crops for specialized harvesting machinery.

E. L. Bergman, researcher in plant nutrition at Penn State, recommended tissue analysis for proper study of trace elements in soils.

"If plants could squawk, we would have lots of plant noises in this world once in a while—due to lack of needed elements in the soil," Mr. Bergman stated. He indicated that most Pennsylvania soils have adequate trace elements.

James H. Eakin, Jr., extension agronomist at Penn State, described a nitrogen demonstration project at the farm of Francis Kennedy of Butler County. Mr. Eakin termed Mr. Kennedy's farm the "nitrogen and dairy demonstration farm," and said the summer of 1958 was the first full growing season with the new program completely in force.

"Even though Mr. Kennedy could not harvest all of his fields, the barn is full of hay and he had to sell some later cuttings," Mr. Eakin said. "One could not imagine more lush or productive pasture."

More than 28 head of animals grazed the entire season on 17 acres of bluegrass, 3 acres of old timothy bluegrass and 3 acres of Reed canarygrass. The animals could not keep these allotted pastures grazed properly.

"There is little doubt in anyone's mind that the average farmer will benefit mostly from a nitrogen-grass program through pasture and early, first cut, wilted grass silage," Mr. Eakin said. "We can expect to hear some criticism on making hay until ways and means are found to properly cut and dry it."

Mr. Kennedy was impressed by the vigor of the Reed canarygrass and will probably plant more in the future, Mr. Eakin reported. During June and July of 1958, 28 head of milk cows pastured the 3 acres of Reed canarygrass for 6 weeks on two grazing periods. In late July it was obvious they were not keeping up with the rapid re-growth. It kept producing abundantly till winter.

The conference, arranged jointly by the society and the university, will be held again in 1960, Feb.

10-12. Meanwhile, the society will have a spring meeting in conjunction with a Penn State-sponsored tour of extension fertilizer demonstration farms in Adams County on May 26. The meeting will be the night before—on May 25—with Holiday Motel, near Harrisburg, the tentative location.

On May 13, many of the society members and special guests will meet again on the Kennedy farm.

## Reader Views

### To the Editor:

Today two men in the economic poisons industry provided me with copies of Croplife for March 9, 1959, both paying very high compliments to your excellent issue answering "unqualified critics" of pesticides.

The articles on L. S. Hitchner, executive secretary, National Agricultural Chemicals Assn., were exceptionally fine and very timely reached this area. About 10,000 acres in, I believe, Cook County are to be treated soon for Japanese beetles, where an infestation was found recently. Already an alderman besieged with inquiries about the details, hazards, etc., wrote to the U.S. Department of Agriculture, Chicago, and I was requested to reply to his letter. In addition to the information I gave him and which he said shed light on a badly clouded subject, I hope to send him a copy of your wonderful edition.

William B. Tiedt  
Investigator in Charge  
Pesticide Regulation Branch  
U.S. Department of Agriculture  
Chicago

### To the Editor:

A copy of your article in Croplife, dated March 2, entitled, "Senator Kefauver Prepares for Attack on Plant Food Trade's 'Monopolistic' Price Policies," has just been brought to my attention.

I would like to congratulate you on this article which brings to light some excellent data, together with some cogent statements.

A. T. Beauregard  
Executive Assistant  
Monsanto Chemical Co.  
St. Louis, Mo.

### To the Editor:

Your editorial in the March 2 issue of Croplife concerning Sen. Kefauver's attack on fertilizer pricing was excellent. The attack is a farce—a most outrageous piece of demagoguery! Although I don't have any proof, I think the attack has been in part inspired by the Senator's "home town" outfit, the TVA, to hit back at an industry that has been critical of the federal government being in the fertilizer business.

I have a great deal to do with the pricing of our agricultural products, and I can assure you that the price competition on all lines has been distressingly keen, and increasingly so, since the changeover from wartime shortages to peacetime abundance of products for sale.

Cedric G. Gran  
Sales Research & Development  
Olin Mathieson Chemical Corp.  
Little Rock, Ark.

### EMPHASIS ON FERTILIZER

GAINESVILLE, FLA.—Pastures and fertilization will receive special emphasis at the University of Florida Agricultural Experiment Station's annual beef cattle short course to be held here April 16-18. Dr. J. T. Cunha, animal husbandry and nutrition department head, says the short course is sponsored by the University of Florida and the eight cattle breed associations.



**SOCIETY OFFICERS**—The Pennsylvania Plant Food Educational Society elected officers during a recent meeting at the Pennsylvania State University. Left to right, Dr. Murry McJunkin, U.S. Steel Corp., Pittsburgh, president; Dr. W. Wayne Hinish, extension agronomist at Pennsylvania State University, vice president, and Rodger C. Smith of the Eastern States Farmers' Exchange, West Springfield, Mass., secretary.



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## Alabama Campaign Kicked-Off With 20 County Meetings

AUBURN, ALA.—The Alabama Soil Fertility Campaign is rolling in high gear, according to J. C. Lowery, extension agronomist with the Alabama Agricultural Extension Service, and Frank Boyd, president, Alabama Soil Fertility Society. Kick-off meetings have been held in 20 counties across Alabama during the past few weeks.

Under the direction of the county agents, these meetings brought together bankers, farmers, agricultural workers, fertilizer people, radio, newspaper and TV representatives, as well as many businessmen in the communities. At most of the meetings, Mr. Boyd delivered the keynote address. He stressed the importance of soil testing as a guide to better fertilizer and liming practices. The high point of his talk concerned the statewide benefits that can be derived from the increased and improved use of fertilizer, lime, and other management practices.

"The biggest smokestack in Alabama is agriculture. Let us all stoke the furnace together to increase our agricultural income by millions of dollars," Mr. Boyd said.

"The agricultural income of Alabama can be increased to \$750 million if improved practices are adopted," said Mr. Lowery. "These practices should begin with a soil test and the adequate use of lime and fertilizer based on the results of these tests."

He also stated that with good management practices that have been proved practical by the Auburn experiment station the state's farmers can compete with farmers in any other section of the country.

Charles Summerour, secretary of the Alabama Soil Fertility Society and area agronomist with the American Potash Institute, has been assisting county agents with the planning, arrangement and publicity for the meetings.

## Tree Planting Reaches All-Time High in 1958

WASHINGTON—Tree planting has more than doubled during the past five years, hitting an all-time high of 1,568,708 acres during the fiscal year 1958 (July 1, 1957 to June 30, 1958), the U.S. Department of Agriculture announced.

Of the record total, 1,534,264 acres were forest plantings and 34,444 acres windbarrier plantings.

This surpasses the fiscal year 1957 record of 1,170,990 acres, doubles the 1953 total of 715,548 acres, triples the 1950 planting of 497,507 acres, and is more than 10 times the 138,970 acres planted in 1930. The figures on tree planting are part of a report on public and private tree planting compiled by USDA's Forest Service.

A tremendous growth in direct sowing of tree seeds by hand and from the air was reported. Last year 81,296 acres were sowed as compared to 32,693 acres in 1957. The increase in this method of reforestation is due to development and use of chemical compounds for seed coatings which are effective in preventing birds and rodents from eating the seeds.

## Woman Elected to Head Aerial Dusting Group

FORT COLLINS, COLO.—Betty Clark of Rifle, Colo., was elected president of the Colorado Aerial Dusters & Sprayers. She is the first woman to hold the position.

William Coomes was elected vice president, Jack Carson secretary and Wesley Wall treasurer, at the annual conference at Colorado State University.

## Tennessee Demonstration Plots Yield Average Of 83 Bu. Corn

KNOXVILLE—An average of 83 bu. of corn per acre was produced by 40 Tennessee farmers on 308 acres in a demonstration program conducted by the University of Tennessee Agricultural Extension Service. The average corn yield for the state during this same period, 1958, was less than 30 bu. per acre, according to Dr. W. B. Bishop, extension agronomist for the University of Tennessee.

Data from the extension service and experiment station indicate that corn produced at this yield level costs the farmer about 55¢ bu. and netted about \$70 per acre.

The average fertilizer treatment was 100 lb. of N, 50 lb. of P<sub>2</sub>O<sub>5</sub>, and 60 lb. of K<sub>2</sub>O per acre. Soil testing played an important role in producing these high yields, Dr. Bishop said, by

indicating the level of available phosphate and potash as well as the level of soil acidity.

In spite of low rainfall on some fields, high yields were obtained from the use of fertilizer combined with other good management practices. Dr. Bishop emphasized that the results of these data show that low soil fertility is generally the first factor limiting the high production of corn in Tennessee.

One hundred seventy four bushels of corn per acre was the highest yield recorded in these demonstrations. This yield was produced with a recommended white hybrid Dixie 33. The plant population was 13,700 plants per acre and the fertilizer used was 300 lb. of N, 100 lb. of P<sub>2</sub>O<sub>5</sub>, and 200 lb. of K<sub>2</sub>O.

Yields of over 100 bu. per acre were reported by 23 of the 40 growers. Soil site selection was an important factor in obtaining high yields as the corn yielded best on those soils

which had a good moisture supplying capacity. For example, one farmer reported that in a field with two soil types the yield varied from 44 bu. per acre on a Grenada soil to 104 bu. per acre on the Falaya soil. The principal difference between these two sites was in the amount of moisture available to the crop.

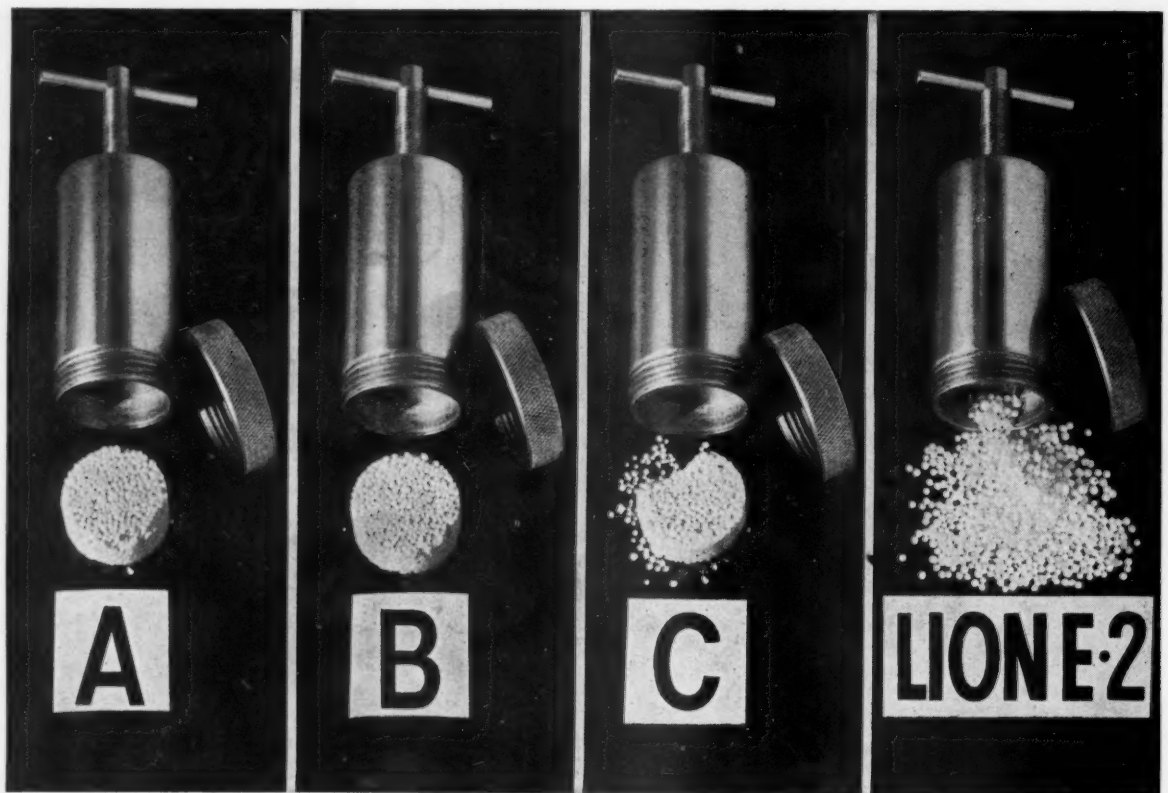
Production costs per bushel were lower for those farmers producing the higher yields of corn. Dr. Bishop stressed that net profits are increased when yields are increased through good management practices which include the adequate and intelligent use of lime and fertilizer based on the results of the soil test.

## RECEIVES GRANT

OKLAHOMA CITY—For research in plant nutrition and soil fertility, Oklahoma State University, Stillwater, has received a grant of \$2,000 from the International Minerals & Chemical Corp.'s phosphate division.

**It's a fact: Monsanto's new fertilizer discovery  
acts like "profit insurance" for you!**

# ONLY NEW LION E-2\* ENDS



COMPRESSION CHAMBER TESTS PROVE NO OTHER AMMONIUM NITRATE CAN MATCH NEW LION E-2 FOR NO-CAKE, DUST-FREE PERFORMANCE

**No more customer complaints, costly returns, double handling or extra bookkeeping when you sell new Lion E-2 no-cake ammonium nitrate fertilizer. Here's the whole profit story.**

New Lion E-2 is the first truly non-caking ammonium nitrate. Lion E-2 was developed by Monsanto scientists seeking to end one of the major problems plaguing you and your customers: fertilizer caking. Tested in the field under all extremes of temperature and humidity, Lion E-2 just wouldn't cake.

New Lion E-2 won't gum up, clog or bridge in your customer's spreader. The uniform prills are 50% harder... free of irritating dust and fines. They won't break

down, crumble or cake either in shipment or storage.

New Lion E-2 takes 20% less of your storage space because it's super-dense. It has the greatest density of any ammonium nitrate made today. Lion E-2 saves your time, storage space, and makes your handling job easier.

New Lion E-2 lengthens your selling season because it's storage-stable. It is not readily affected by temperature changes or humidity. Your

customers can buy any time and store safely until used. LION E-2 may well prove your big year-round volume builder!

Lion E-2 is guaranteed not to cake in the bag in your place or on your customers' farms. From all angles, Lion E-2 is the superior-quality ammonium nitrate... yet it sells at ordinary ammonium nitrate prices. Sell your customers the best... you'll keep old customers coming back and gain many more new ones who want the best: new Lion E-2.

## Doubled Cotton Acreage Predicted for Georgia

ATHENS, GA.—“Georgia farmers will probably plant more than 600,000 acres in cotton this year, nearly double the acreage planted in cotton last year,” said D. L. Branyon, agronomist, agricultural extension service.

“About 54% of the cotton acreage allotment for 1958 was put in the soil bank last year,” Mr. Branyon points out, “and since the soil bank is not in effect this year, renewed interest in growing cotton is expected.”

Last year, according to the agricultural crop reporting service, only about 388,000 acres of Georgia farmland was planted in cotton although the cotton acreage allotment for the state was 905,387 acres. The allotment for this year is 850,600 acres, about 7% less than last year.

Cotton permits Georgia farmers to make more profit per acre than any other crop grown in the state, Mr.

Branyon explains, except for various specialty crops such as tobacco, vegetables, and flowers. Last year Georgia farmers averaged 447 lb. of lint an acre, which was an all-time state record.

“Since many Georgia cotton growers can almost double their income on cotton over costs of production by increasing cotton yields to a bale and a half per acre,” Mr. Branyon said, “by 1965 the state average yield per acre for cotton could easily be more than 500 lb.”

With cost of equipment, labor, and other things necessary to produce cotton going up, Mr. Branyon explains, to make a profit, cotton growers will have to continue to increase yields.

To do this, Mr. Branyon cites seven cotton production practices found by the Georgia experiment stations, the extension service and good cotton farmers to give good results

(1) Select and plant on only fertile,

well drained soil, (2) Prepare a good seedbed, (3) Use at least 500 to 800 lb. of balanced fertilizer and side dress with 40 to 60 lb. of nitrogen, (4) Use certified seed of wilt resistant, adapted varieties which have a high percent germination and which have been treated, (5) Leave a good stand of uniformly spaced plants on the land—25,000 to 35,000 an acre, (6) Control weeds and grass through good cultural practices, and (7) Control cotton insects.

### BOLL WEEVIL DATA

COLLEGE STATION, TEXAS—The Texas Agricultural Experiment Station here has released a progress report, 2069, which gives procedures and results of field-plot insecticide tests for the control of the boll weevil and bollworm. The report gives a summary of the tests and then goes into a detailed explanation of the experimental procedure and results obtained.

## Winter Fertilization Of Cotton Accepted As Standard in Texas

STANTON, TEXAS—Winter fertilization of cotton land is becoming an accepted practice in this area. Most farmers finished fertilizing in February, especially with phosphorus and potash. They also put on one application of nitrogen, but will apply another one in the form of sidedressing after cotton begins to fruit.

Farmers are finding two advantages to early fertilization, according to Gerald Hanson, former county agent and now manager of a seed and farm chemical store.

“They can put down fertilizer while they have plenty of time,” he said. “They are not rushed in the winter, and will do a better job with it. Later they may hurry so much they won’t put on enough or will get a lower analysis fertilizer.”

“Also in this arid climate the nitrogen will hasten the decay of stalks.”

Until last year farmers had not used potash for anything but cantaloupes. Mr. Hanson says his firm has already sold around 60 tons of potash, which will be used almost altogether on cotton.

## Virginia Fertilizer Sales Drop 4.2% During 1958

RICHMOND, VA.—Fertilizer sales in Virginia during 1958 were 30,991 tons or 4.2% less than sales in 1957, reported the division of chemistry and foods, Virginia Department of Agriculture.

A total of 709,951 tons was sold in the state last year, compared with 740,942 tons in 1957 and 753,181 in 1956.

In a breakdown of principal divisions, mixed goods accounted for 627,353 tons and materials 82,598 tons. The previous year’s totals were 652,796 and 88,146 tons respectively.

The most popular mixture in the state was 5-10-10 which sold 169,010 tons. Mixture 2-12-12 sold 131,453 tons.

Most popular material was 20% nitrogen goods which sold 18,548 tons.

## Insecticide Use on Thrips Called ‘Good Investment’

PHOENIX, ARIZ.—Citrus packing houses in the Salt River Valley report that money spent on insecticide for control of thrips is one of the best investments citrus growers can make.

Fruit from groves treated for the pest consistently grades out better than fruit from untreated groves. Some years, the difference is so great it means hundreds of dollars in net returns an acre to the grower, it was stated.

Navel and Valencia oranges from a treated grove will be about 85% No. 1 grade in an average year, compared to about 50% in an untreated grove. About 10% of the fruit in treated groves will grade No. 2, compared to 35% in untreated. Five percent will be culls in the treated groves, while culls will be as high as 15% otherwise.

Dan Hess, University of Arizona agricultural agent, said it normally costs growers only \$6 to \$8 an acre to control thrips, including the insecticide and the cost of application.

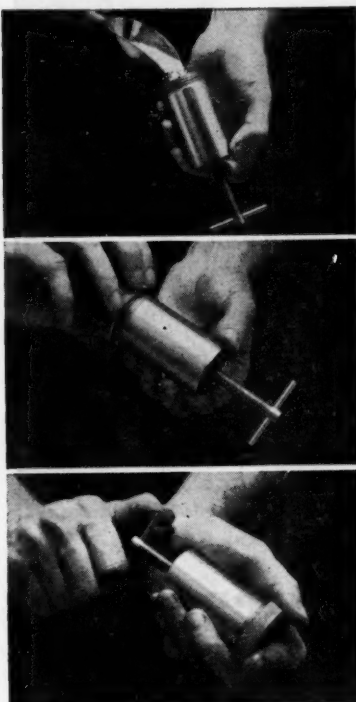
Mr. Hess advises growers to start thrip control measures immediately after petal-fall.

## Agronomist Resigns

SAN MARINO, CAL.—The soil improvement committee of the California Fertilizer Assn. has announced the resignation of its agronomist, Malcolm F. Rice, as of March 1.

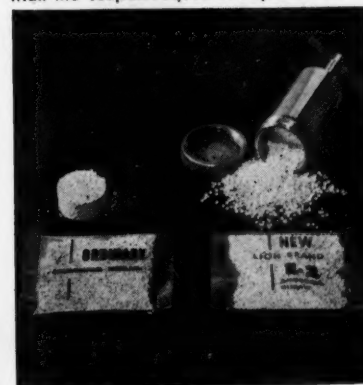
Mr. Rice took his degree from the University of California, and has been associated with the committee since Nov. 15, 1957. He is leaving to go into active farm management in the Imperial Valley.

# CAKING PROBLEMS FOR GOOD!



### HOW TESTS WERE MADE . . .

1. Steel compression chamber is filled with prilled ammonium nitrate.
2. Steel cap closes chamber.
3. Pressure up to 600 lbs. per sq. inch is applied by turning T-bar.
4. See Lion E-2 tested in your own store . . . compare results with any other ammonium nitrate you might be carrying. Mail the coupon request today!



## CONVINCING ADVERTISING AND STORE PROMOTION NOW BUILDING FARMER INTEREST IN LION E-2

Eye-catching, hard-selling advertisements in FARM JOURNAL, CAPPER'S FARMER, PROGRESSIVE FARMER, FARM AND RANCH are backed up by state farm publications, local county newspapers. Your customers will be reading about, asking about Lion E-2. Colorful Promotional Aids Hike

Volume. Window and wall banners . . . facsimile bag cutouts to hang from the ceiling . . . full-color framed bulletin board . . . literature and sample dispenser for your counter . . . ad mats for your local use . . . all designed to help you do a bang-up sales job on new Lion E-2.



### NEW LION E-2

Always stores . . .  
Always pours

\*T.M. Monsanto Chemical Co.



NEW BROCHURE gives you all the big selling advantages. For your copy, MAIL COUPON TODAY!

Monsanto Chemical Company  
Inorganic Chemicals Division  
Dept. CL-1, St. Louis 66, Missouri

- ☐ Please send free copy of "The Lion E-2 Brand Story"
- ☐ I would like to see Lion E-2 demonstration
- ☐ I am now handling Lion E-2
- ☐ I am not now handling Lion E-2

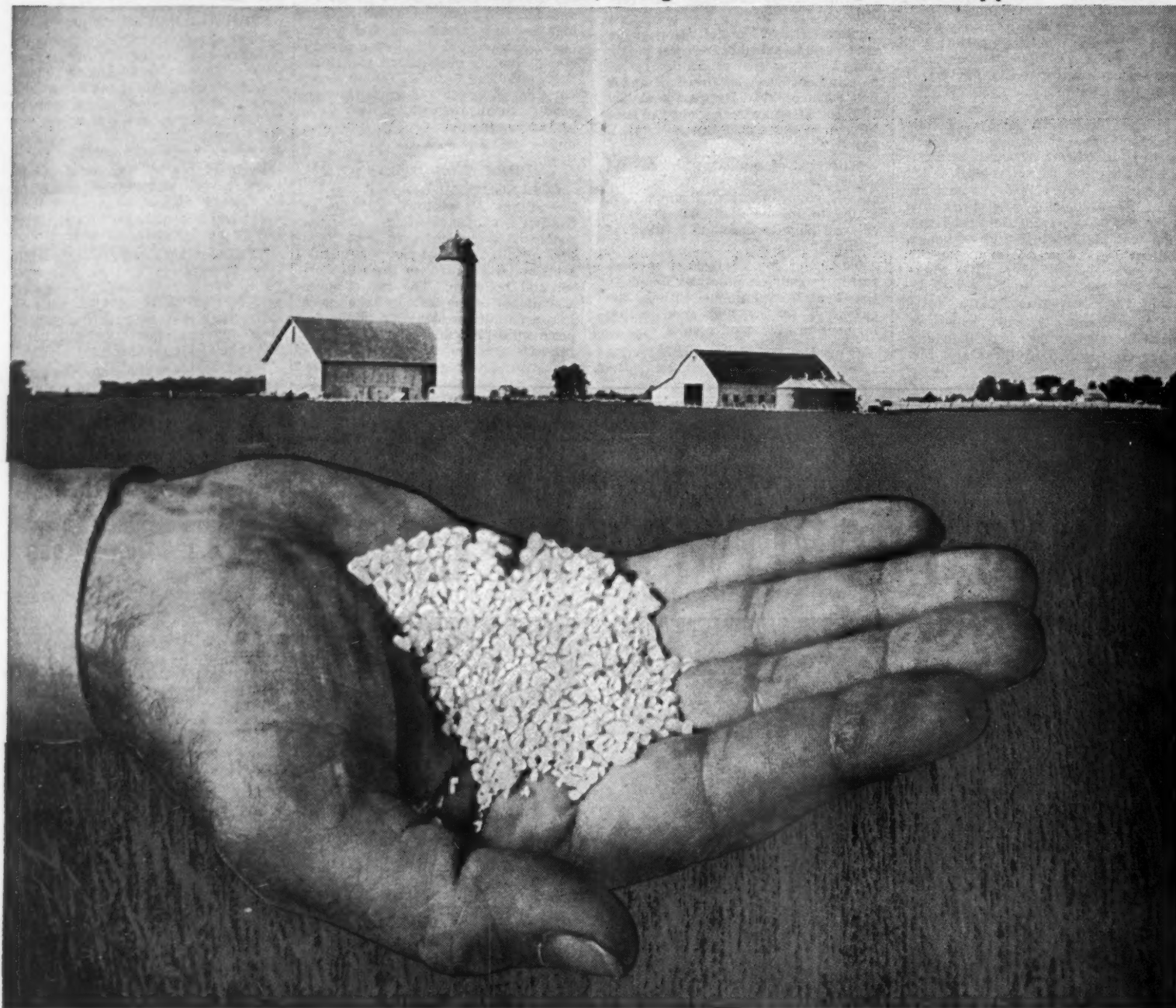
Name \_\_\_\_\_

Firm Name \_\_\_\_\_

Street or R. R. No. \_\_\_\_\_

City or County \_\_\_\_\_ State \_\_\_\_\_

↓ Advertisements like this in full color are appearing every month during the fertilizer season in *Farm Journal*, *Farm & Ranch*, *Progressive Farmer*, and *Capper's Farmer*.



## Hi-D®...the only ammonium nitrate that's granular!

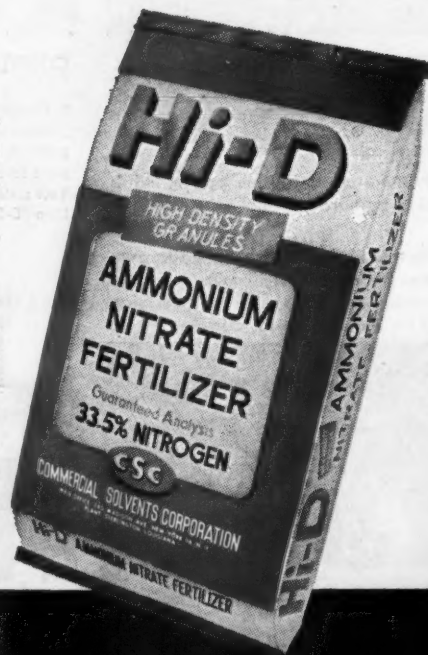
*the helping hand that boosts your yield*

Give your land the helping hand of Hi-D. See for yourself why Hi-D is better than any other ammonium nitrate.

Hi-D handles so well—in storage and in spreading. *Only Hi-D is granular.* High in density, Hi-D is super dry—has less tendency to pick up moisture prior to application even under humid field conditions. Result: Hi-D always flows freely—doesn't gum-up—won't clog, cake or bridge in the spreader. And still another advantage, you can get up to 20% more ammonium nitrate in the hopper to reduce loading stops.

Hi-D contains 33.5% of available nitrogen. This crop-boosting nitrogen comes in two equal "servings"—your crops get half *nitrate* nitrogen for vigorous early growth and half *ammonia* nitrogen for sustained follow-up feeding.

This year, let Hi-D help boost your yield. but remember—sound management calls first for soil testing, a liming program if needed, and the necessary balanced mixed fertilizer. Then, a supplementary feeding of nitrogen—the heart of the harvest. Make it Hi-D ammonium nitrate... see your dealer.



**THE BEST SOLID NITROGEN!**

## Selling Tools for Dealers\*

### Soil Tests — A Good Tool

By **WERNER L. NELSON**  
American Potash Institute

Soil tests are a good tool for increasing fertilizer sales. You are always looking for ways to increase. If you have sold soil tests, the chances are you have sold the fertilizer. In addition to making money for yourself you are enabling your customer to have the kind of fertilizer program which is best for his farm.

What's best for the farmer is best for the fertilizer industry because his income will increase and your income will increase.

Heavier users have more soil tests. The farmer by his own admission says that soil tests are a great influence on purchase of fertilizer. A recent survey showed the high fertilizer users to be employing soil tests to a greater extent than the low users.

Level of Use	% Tests
High	63
Medium	49
Low	40
None	24

The official agronomists are saying, "Soil testing is the connecting link between soils research and the farm—"

(Turn to **SOIL TEST**, page 19)

### Demonstrations Sell Fertilizer

By **ARLAN WOLTEMATH**  
National Plant Food Institute

Most salesmen know a good bit about fertilizer demonstrations. The chances are all of you have seen good demonstrations, so-so demonstrations, and demonstrations that everyone would have been better off without. Most fertilizer salesmen have been urged time and again to take farmers, bankers and others out to see demonstrations and to use demonstrations as a means of selling. Thus, it is an old subject to many of us and a few may think it is pretty well worn out. Nevertheless, it might be useful for us as fertilizer salesmen to sum up what we do know about demonstrations in hopes that we may get some guidance for the future.

1. The National Analysts' survey on "Farmers' Attitudes Toward the Use of Fertilizer," brought out some very interesting points about fertilizer demonstrations, which are as follows:

(a) About 76% of midwestern farmers approve of fertilizer demonstrations and believe they are beneficial and would be helpful in influencing farmers' fertilizer practice.

(Turn to **DEMONSTRATIONS**, page 17)

\* (Editor's Note: The accompanying talks were among those given at the Fertilizer Salesmen's School held recently at the Deshler-Hilton Hotel in Columbus, Ohio.)

## Woman Manager Turns Garden Supply Department into Profitable Operation

The manager of the nursery and garden supply department at the Eiland Implement Co., Lamesa, Texas, is one of the youngest and certainly one of the prettiest in the state. Mrs. Betty Ables made the suggestion to general manager Bob Crawley last year that the firm put in a garden and nursery department.

Mr. Crawley told her to go ahead. He had faith in her work, and knew she had already had experience in other stores. So under her super-

vision, the firm set up half its tractor display room for garden and allied supplies, and built a 20 by 75-ft. nursery just outside the store. Mrs. Ables did all the buying, and a few weeks later sponsored a big open house for the public.

The business started in a dull season, yet within three months had cleared \$1,000. This was just the beginning, as customers by increasing numbers started coming to the store as warm weather approached.



**MRS. BETTY ABLES** is the pretty, young manager of the garden supply and nursery department for the Eiland Implement Co. in Lamesa, Texas. Under her guidance, the department has grown and profited. In this story she outlines her ideas for success.



**AN ATTRACTIVE** front and plenty of parking space invite customers to Woods Farm Supply Co. in Tunica, Miss. The large letters in the name of the store can be read easily by passing motorists from the highway some 100 ft. away.

## 'On-the-Farm Calls Best,' Says Mississippi Dealer

By **EMMETT E. ROBINSON**  
and **ED WHITE**

How important is it for the farm store man to get out and call on his customers, both present and potential?

To Oliver Woods, owner of the modern, well-arranged Woods Farm Supply Co. off Highway 61 on the outskirts of Tunica, Miss., calling on customers is a major method of building and holding business. In fact, he estimates he and two members of his staff travel from 700 to 800 miles

each week taking orders from and maintaining contact with customers.

Just a little figuring with a stub pencil, or the adding machine in Mr. Woods' neat office, will show that amounts to some 40,000 miles or nearly twice around the world each year.

This business building technique came naturally to Mr. Woods because that's the way he got into the farm store field. After World War II, he had a job running a feed route for a Tunica businessman. In 1950 the route was offered to Mr. Woods as his own. Beginning in what he terms "a hole in the wall near the post office," he expanded the feed route by adding fertilizers and insecticides.

Since his poor location offered little parking space for customers, Mr. Woods—in a manner of speaking—took his store to the customer. He went out, sold orders, and later delivered the merchandise to

(Turn to **FARM CALLS**, page 20)



**AN ATTENTION** getter is this equipment used for making weather observations. The layout is located to one side of Woods Farm Supply Co., in Tunica, Miss., so that it can be seen from the highway. Many persons stop in the store to find out what it is and to inquire about temperatures. Here Oliver Woods, the owner, takes a reading.

Mrs. Ables lists several of her methods for making the department a success:

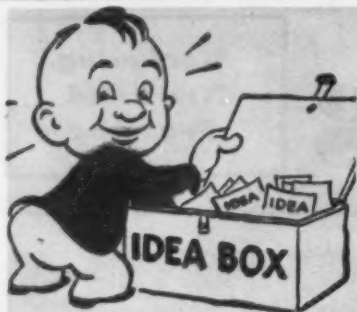
1. Watch your buying, she says. Don't buy too much of any one item, but get a variety. With nursery stock, you must have a line to compete with the cheaper houses, but also have some quality stock and some of those hard-to-find items. People are always trying to find something new.

2. Study the buying habits of customers. Keep records on what sells and where it was located in the store. If certain items don't sell, move them around a bit. When a line of fruit trees displayed on the outside did not sell, Mrs. Ables moved them inside and sold them all. "In here we could explain and suggest," she said. "Out on the sidewalk, people merely looked and passed on."

3. Keep telling people. "Always keep something popping," she said. "We had one big open house which was advertised by newspapers and a dozen spot announcements each day on radio. We may have another one, with prizes given away and entertainment."

4. Learn what will sell by itself, and what items need a salesman. She says that few people buy plant food unless approached by a clerk. The power of suggestion works on all products, but don't high-pressure people.

(Turn to **WOMAN**, page 12)



## What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

### No. 6883—Quack Grass Movie

Agricultural losses to quack grass and the control of this weed grass are explained in a motion picture produced by the Dow Chemical Co. Entitled "Quack Grass, the Perennial Guest," the film likens quack grass to a burglar who has become a guest by being allowed to remain in farm fields. In sequences filmed in the field, the picture shows the control of this grass in various crops with pre-plant, post harvest or in-crop applications of Dowpon. The film is available for free bookings. Check No. 6883 on the coupon and mail to this publication.

### No. 7402—Bulletin on Motor Starters

The advantages of centralizing motor starters in control panels are discussed in a 4-page technical bulletin offered by the Richardson Scale Co. Bulletin 58-C cites initial costs, wiring, engineering time and maintenance costs savings that result from mounting the starter centers in control panels at the time the panel is constructed, the company said. Six photographs of motor starter centers mounted in Richardson control panels at various plants illustrate the bulletin. For copies, check No. 7402 on the coupon and mail.

### No. 6884—Aerosol Insect Sprayer

A new model of the Bes-Kil aerosol insect sprayer has been announced by Besler Corp. The model is skid-mounted and without a tank, but otherwise is identical to the trailer mounted models, the company says. The Bes-Kil is an adaption of the



smoke screen machine used by the U.S. Navy in World War II, the company says, and tests show it is effective for killing flies, mosquitoes and other insects. A feature of the machine, according to company literature, is that it applies the insecticide outside of the machine, so that the chemical does not lose potency by

being overheated. It can also be used as a wet-spray machine, with a spray boom or by hand. Check No. 6884 on the coupon and mail for details.

### No. 6885—Pelleted Brush Control

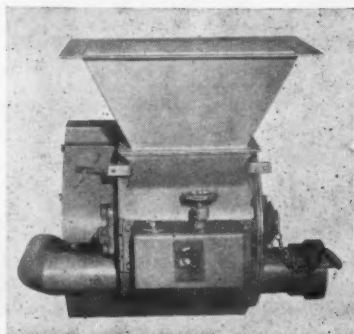
"Dybar," a pelleted formulation of fenuron for control of woody brush, has been introduced by E. I. du Pont de Nemours & Co. When the pellets are scattered over brush-infested areas, the company says, they give positive brush control with one treatment. The pellets are nonvolatile and can be used near sensitive crops, are noncorrosive, nonflammable and present no toxicity hazard to people or animals when used as directed, the company says. The 3/4 in. cylindrical pellets are applied just as they come from the package. They can be scattered by hand, applied with a table-spoon at the base of individual stems or clusters, applied with mechanical broadcaster or spread by airplane. Complete information can be obtained by checking No. 6885 on the coupon and mailing to this publication.

### No. 7406—Laboratory Service Data

The University of Wisconsin Alumni Research Foundation has announced the availability of a new brochure and a series of leaflets describing the various laboratory services the group offers to industries. Included among the services discussed are nutrition, chemistry, animal studies, toxicity testing, microbiology, insecticide testing and food technology. The brochure is fully illustrated, showing the various phases of laboratory research in actual photos. The individual leaflets discuss the specific service in detail. For information on how to receive this data, check No. 7406 on the coupon and mail.

### No. 7408—Air Delivery Feeder

Ripco Air Systems has introduced the Ripco truck conversion kit for flexible air hose delivery of granular material. With the kit, the company says, dealers and suppliers can convert present rolling stock, either flat bed or dump style, to an air delivery system. Simplicity of installation is one of the unit's features, the company says. The feeder installed at the rear of the truck bed is hydraulically



driven, eliminating the need for long power take off shafts and flexible drives. On flat bed trucks, the feeder can be used as a bag to bulk delivery, or gravity fed from a dump style body. More information is available. Check No. 7408 and mail for details.

## Also Available

The following items have appeared in the What's New section of recent issues of CropLife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

### No. 6880—Weed and Grass Killer

A pelleted weed and grass killer has been announced by Chipman Chemical Co., Inc. The material, called "Chlorea Granular," contains sodium chlorate, sodium metaborate and monuron. According to the company, this combination kills deep-rooted weeds and grasses and has prolonged soil-surface action on shallow-rooted grasses, weeds and seedling growth. The dry pellets can be applied with any mechanical spreader used for application of granular materials; or may be broadcast by hand, the company says. One pound will treat about 100 sq. ft. of weeds and grass. Check No. 6880 and mail for details.

### No. 6882—Fertilizer Spreaders

The Ezee-Flow division of Avco Distributing Corp. announced the availability of its 1959 line of fertilizer spreaders. Spreader models 120D (illustrated), 100D and 88D, of 12 ft., 10 ft. and 8 ft. widths, feature a patented removable cam agitator that can be lifted out of the hopper



for easy cleaning, the company said. The cam agitator grinds, mixes, levels and forces fertilizer out port openings through positive camming action, the company said. The agitators are case-hardened to crush the hardest fertilizer lumps. Complete product and soil test kit information can be obtained by checking No. 6882 on the coupon and mailing.

### No. 7389—Car Shaker Data Sheet

A data sheet which presents revisions on Syntron's recently introduced unbalanced-motor vibrating car shaker is available from Syntron Co. The illustrated sheet gives complete descriptions, electrical and mechanical data and specifications on this unit. The car shaker is designed to facilitate emptying of railroad hopper cars without damaging the cars. For a copy of the data sheet check No. 7389 on the coupon and mail to this publication.

### No. 6875—Loader for Tractors

An industrial loader specifically designed for International Harvester 240U and 340U tractors has been announced by Superior Equipment Co. There are two models, H-228-I with double acting lift rams, and H-128-I with single acting lift rams. Both models have dual bucket rams, independent hydraulic systems, box type lift arms, tubular frames and

Send me information on the items marked:

- |  |  |
|--|--|
| <input type="checkbox"/> No. 6875—Loader for Tractors      | <input type="checkbox"/> No. 6883—Quack Grass Movie          |
| <input type="checkbox"/> No. 6876—Pre-Emerge Spray Kit     | <input type="checkbox"/> No. 6884—Aerosol Insect Sprayer     |
| <input type="checkbox"/> No. 6877—Data on Airplane         | <input type="checkbox"/> No. 6885—Pelleted Brush Control     |
| <input type="checkbox"/> No. 6878—Spray Sales Aids         | <input type="checkbox"/> No. 7389—Car Shaker Data Sheet      |
| <input type="checkbox"/> No. 6879—Polyethylene Coated Bags | <input type="checkbox"/> No. 7402—Bulletin on Motor Starters |
| <input type="checkbox"/> No. 6880—Weed and Grass Killer    | <input type="checkbox"/> No. 7406—Laboratory Service Data    |
| <input type="checkbox"/> No. 6881—Brush Control Pellets    | <input type="checkbox"/> No. 7408—Air Delivery Feeder        |
| <input type="checkbox"/> No. 6882—Fertilizer Spreaders     |  |

(PLEASE PRINT OR TYPE)

NAME .....

COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL—

FIRST CLASS  
PERMIT No. 2  
(Sec. 34.9,  
P. L. & R.)  
MINNEAPOLIS,  
MINN.

BUSINESS REPLY ENVELOPE

No postage stamp necessary if mailed in the United States

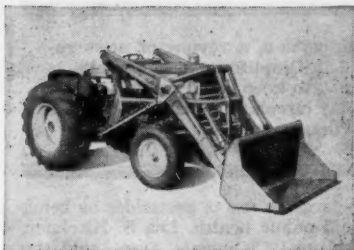
POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67

Reader Service Dept.

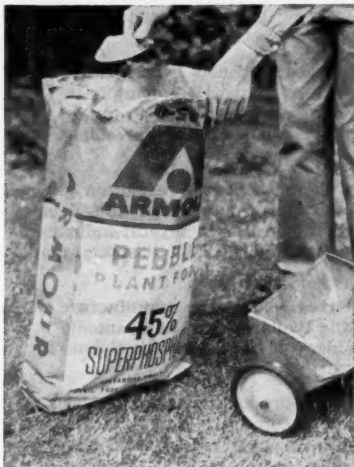
Minneapolis 40, Minn.



pry-out bucket action. The bucket clears 10 ft. 11 in. at full height. The company says a complete variety of attachments including buckets, manure forks, crane, fork lift and front dozer blades are available. Check No. 6875 on the coupon and mail for details.

### No. 6879—Polyethylene Coated Bags

Bags with a coating of polyethylene to keep superphosphates dry during shipping and storage have been announced by Union Carbide Plastics Co. and Kraft Paper Bag Corp. Because superphosphate has a



tendency to dry out in plain bags, the firms developed the polyethylene coating to prevent it. The bags will not split at creases or accept moisture, literature explained. It was noted that the multi-wall bags made with polyethylene coated kraft paper are approximately 40% lighter than most conventional paper bags. Details can be obtained by checking No. 6879 on the coupon and mailing to this publication.

### No. 6877—Data on Airplane

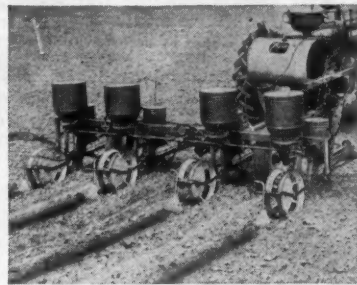
An illustrated brochure, containing information on the new Grumman Ag-Cat, an agricultural airplane, is being released by Mid-Continent Aerial Sprayers, Inc. According to the company, the plane can be used for seeding, fertilizing, dusting and other agricultural uses. The brochure, which is done in two colors, contains photos of the Ag-Cat in flight and on the ground. Specification and performance tables are included. For copies, check No. 6877 on the coupon and mail.

### No. 6881—Brush Control Pellets

Chemical control of woody brush is offered in a pelleted formulation of fenuron, one of the substituted-urea herbicides introduced by E. I. du Pont de Nemours & Co. Called "Dybar" fenuron weed and brush killer, the pellets are scattered over brush-infested areas and give positive control with one treatment, the company said. Being nonvolatile, the pellets can be used near sensitive crops, and are noncorrosive, nonflammable and present no toxicity hazard to people or animals when used as directed, company literature claimed. The pellets are cylindrical in form, 3/4 in. long, can be scattered by hand, applied with a tablespoon at the base of individual stems or clusters, applied with mechanical broadcaster or spread by airplane. Check No. 6881 and mail for details.

### No. 6876—Pre-Emerge Spray Kit

Tryco Manufacturing Co. announced a pre-emerge spray kit designed to fit all row crop planters to apply spray materials in a band on the crop rows at the same time the seed is being planted. The kit consists of mounting brackets that adjust to any angle to give the proper spray



pattern, a stainless steel line strainer, hoses, clamps and all necessary

fittings. A variety of kits are available for two, four and six row planters, the company says, and they are designed for use with presently owned spray equipment. Complete information, literature and application data is available upon request. Check No. 6876 on the coupon and mail.

### No. 6878—Spray Sales Aids

Point-of-sale posters, information booklets and special can tags are being offered by McLaughlin Gormley King Co. as sales aids for its dairy spray products. The merchandising materials are designed for use at the store levels. The poster notes national publicity which is being given the sprays. The booklet contains a step-by-step program for controlling flies. The snap-on tags give quick point-of-sale identification for sprays containing repellents, the company said. For more information, check No. 6878 on the coupon and mail to this publication.

### FULL-TIME RESEARCH

GAINESVILLE, FLA. — W. C. Rhoades, entomologist in charge of the North Florida Experiment Station at Quincy, is returning to full-time research and has requested relief from administrative duties, announced Dr. J. R. Beckenbach, director of the University of Florida Agricultural Experiment Stations. "Mr. Rhoades is presently heading up a comprehensive research project on effects of the fire ant eradication program," the director said. "Until this is well along, he expects it to require his full attention, although he has agreed to continue as head of the station until a successor can be named."

### BOLLWORM BULLETIN

COLLEGE STATION, TEXAS — "Chemical, Cultural and Mechanical Control of the Pink Bollworm" is the title of a new bulletin being made available by the Agricultural Information Office of the Texas Agricultural Experiment Station.

## ARE YOU READY TO SUPPLY YOUR CUSTOMERS WITH AMERICA'S MOST WANTED NEW FERTILIZER?

Advertisements like this one are working right now to build demand for Spencer 45 Urea (45% nitrogen)



*Announcing*  
America's Most  
**WANTED**  
NEW FERTILIZER:  
**New SPENCER**  
**45...**  
**UREA (45% NITROGEN)**  
In New All-Plastic Water-Proof Bags

**You Get Real 45-Caliber Grow Power In This New 45% Nitrogen Urea Non-Leaching Fertilizer:**

**Not just one fast "shot" of nitrogen, but a smooth, steady release of nitrogen—that's what you expect when you apply new Spencer Urea! The amount of available nitrogen grows as fast as your crop grows... feeds it throughout the growing season. But that's not all!**

**Spencer Urea resists leaching. As Spencer Urea dissolves, the nitrogen actually attaches itself to soil particles and clings to them, even in light or sandy soils.**

**More power per pellet.** Spencer Urea contains more nitrogen per pound of material than any other solid nitrogen source, so you don't have to buy, store or handle as many bags.

**So go after a bin-busting bumper crop with new Spencer Urea—available in reusable weather-proof all-plastic bags that even a drenching rain can't soak through, or in polyethylene-lined paper bags.**



Latest addition to the Spencer family of nitrogens!

Cash in on this extra-profit opportunity!

Available in weather proof all-plastic bags and in polyethylene-lined paper bags!

Place your order now through your manufacturer's representative!

## WOMAN

(Continued from page 9)

ple. Be friendly and helpful, but let them browse.

5. Don't get too fond of any certain brand. Sometimes this over-eagerness to push a certain product can result in irritating the customer. "With insecticides, the main thing is to learn the ingredients and what they will do," she explained. "I can read the formula and tell whether it is for a hard-shelled or soft-shelled insect, no matter what the brand. Don't say, 'This is a good brand.' Tell them why."

6. Take pride in the store. Keep it clean and attractive. Even the man who has just crawled off a dusty plow appreciates beauty and order.

7. Don't try to undersell all your competitors. "We make 100% profit on plants and ceramics," said Mrs. Ables, "and from 25 to 35% on turf type fertilizers. You should make

some profit on everything sold, but there must be some give-and-take in a competitive business."

8. Always try to get the tie-in sales. If a customer buys garden seed, don't forget to mention garden tools, fertilizers, flower pots and other related items. Half of selling is pointing out a need or some way of doing a task easier, according to the attractive manager.

9. Work for both city and rural trade. "We've had an excellent rural trade," Mrs. Ables said. "While the men folks talk tractors and irrigation pipe, their wives get interested in our displays of nursery stock. Country people are just as educated and take just as much pride in their homes as town people, and they will tend more to trade as just one place."

The firm's general manager, Mr. Crawley, is well pleased with his young assistant. "She put this thing over with a bang," he said. "It's succeeding much faster than we expected. There was a need for it, but mostly it was superb management."



**HIGH-K**

**MURIATE  
OF POTASH**

**for the  
PLANT FOOD INDUSTRY**

THIS symbol stands for high-grade uniform, coarse and granular Muriate of Potash (60%  $K_2O$  minimum). Southwest Potash Corporation provides a dependable supply of **HIGH-K\*** Muriate for the plant food industry.

\*Trade Mark

**Southwest Potash  
Corporation**

61 BROADWAY • NEW YORK 6, N. Y.

## What's Been Happening?

This column, a review of news reported in *Croplife* in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

Despite the assertions of critics who regard the use of pesticides as being contrary to the interests of conservation and public health, Lea S. Hitchner, executive secretary of the National Agricultural Chemicals Assn., told the National Wildlife Federation meeting in New York Feb. 27-28 that the conservation of wildlife is being improved by pesticides.

**Greater selectivity in the chemical control of weeds, without damage to crops or lawn, is predicted by Dr. Dayton L. Kilgman, U.S. Department of Agriculture scientist, as a result of a better understanding of how plants grow and react to various compounds.**

Plans for California Spray-Chemical Corp.'s multi-million dollar fertilizer plant at Kennewick, Wash., moved ahead with the recent announcement of contract awards for two major processing units.

Dr. Richard A. Harvill, president of the University of Arizona and keynote speaker for the Western Cotton Production Conference recently, drew an encouraging picture of the opportunities for producing cotton in the western area of the U.S.

Trade sources available in Washington forecast a healthy demand for fertilizer materials from the farm community this crop year, reported John Cipperly, *Croplife* Washington correspondent. Field reports indicate that increased farm inquiries and actual sales are now being reported from corn and cotton producing regions.

**The San Francisco Chemical Co. has acquired new holdings estimated to contain nearly 15 million tons of convertible phosphatic material at high level, assuring the company reserves in the Crawford and Leefe, Idaho, area for more than 40 years, D. L. King, president of the firm, announced.**

Sen. Estes Kefauver (D., Tenn.) has authored a Senate resolution giving authority to the subcommittee on antitrust and monopoly of the Senate Judiciary Committee to make an investigation of prices in several industries, including the fertilizer industry. An appropriation of \$395,000 has been made for the work of the subcommittee.

**Natural gas soon will replace imported coal in the manufacture of ammonia and ammonium nitrate at the Welland plant of Cyanamid of Canada, Ltd., Dr. L. P. Moore, president of the American Cyanamid Co. subsidiary, has announced.**

The top engineering research need in crop production is for analysis of pesticide application equipment and methods, according to the U. S. Department of Agriculture Farm Equipment and Structures Research Advisory Committee which met in Washington recently.

An eloquent plea for the fertilizer industry to make better businessmen out of its dealers; a first-hand report of recent advancements made in Russian agriculture; the premier showing of a new grassland pasture motion picture, and reports on crop yields in a number of states featured the program of the 11th annual joint meeting of midwestern college agronomists with the fertilizer industry in Chicago Feb. 12-13.

"DDT Trial" plaintiffs, who failed in court to stop mass aerial sprayings, have appealed their case on nine separate points. The 14 Long Island, N.Y., residents filed their appeal with the U.S. Court Oct. 28, but it was not known until recently on what points the plaintiffs made their plea.

**Fewer boll weevils took cover in woods trash near cotton fields this winter than last in seven cotton-producing states, according to a U.S. Department of Agriculture survey. The number that survives the winter, combined with weather conditions during the early part of the cotton fruiting period, will determine this insect's potential for damage to the 1959 cotton crop. Lowest average counts for an area were found in south Georgia—145 weevils per acre—and highest in northeastern Louisiana—5,756 per acre.**

Merger negotiations between Smith-Douglass Co., Norfolk, Va., and Wilson & Toomer Fertilizer Co., Jacksonville, Fla., first announced last fall, have now been terminated.

Dempster McIntosh, managing director of the Development Loan Fund, has signed an agreement by which the U.S. will lend \$12 million to the Kingdom of Greece to assist in establishing a nitrogenous fertilizer plant. The signing completed action on a transaction approved and announced by the Development Loan Fund last June.

**A marked decrease in the average abundance of European corn borers found last fall throughout the U.S., as compared with corn borer numbers found in the fall of 1957, was noted in figures recently released by the U.S. Department of Agriculture. However, 58 additional counties were reported infested for the first time in 1958, according to plant pest control officials of the USDA's Agricultural Research Service.**

"We must keep in step with the farmers in helping them solve their problems and supply their needs," Dr. D. E. Wolf, the Du Pont Co., Atlanta, Ga., told more than 175 persons attending the Pesticide School at North Carolina State College in Raleigh recently.

**Completion of its current program of modernization in its Ontario fertilizer plants has been announced by Canadian Industries, Ltd., Toronto.**

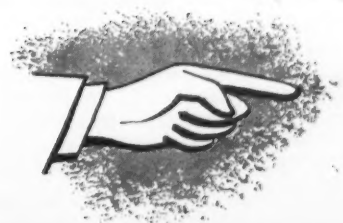
South Dakota fertilizer dealers made tentative plans to organize a fertilizer dealers association during the ninth annual fertilizer and soil management short course at South Dakota State College in Brookings. A meeting to set up formal organization had been set for Feb. 23, at Brookings.

The U.S. Department of Agriculture has reported that carryover stocks of pesticides on Sept. 30, 1958, averaged about 10% lower than on the same date in 1957. Larger carryovers of new materials than in 1957, especially organic phosphates and weed killers, were more than offset by shorter inventories of DDT and grain and soil fumigants, the report said.

# YOU DISCOVER a GOLD MINE in



# '59



# FIRST!

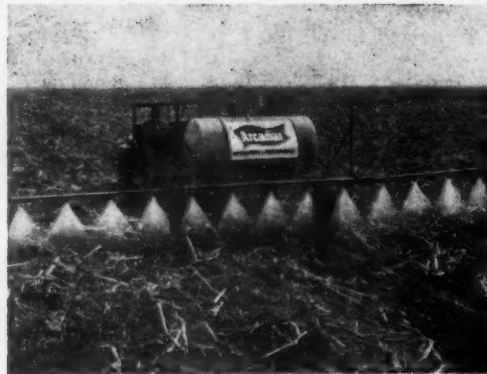
First of a series of farm magazine ads to sell **GOLDEN URAN** to millions of farmers. A 14-karat opportunity for you to **STRIKE IT RICH!**



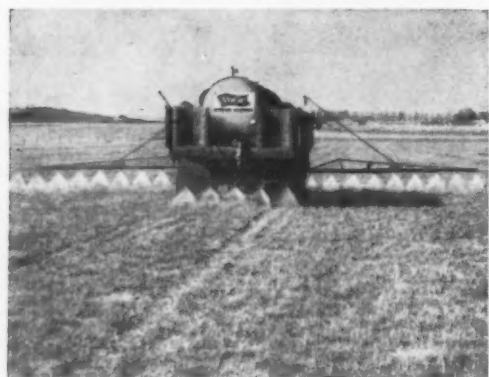
Developed by Allied Chemical research, **ARCADIAN URAN** Nitrogen Solution was first applied to farm crops on farms near Cynthiana, Indiana, in 1950. This was the beginning of the use of Nitrogen Solutions by spray application. Today **URAN** is well-known and widely-used on thousands of farms in many states. *Farmers know **URAN** produces results!*



Here is the first tank carload of **URAN** Nitrogen Solution, delivered in 1951 to Charles Schenk of Vincennes, Indiana. Applied before planting corn, **URAN** helped build yields of well over 100 bushels per acre. Every year since, Mr. Schenk has been plowing down liquid **URAN** Nitrogen on cornstalks to develop uniform growth and yields averaging 115 bushels per acre.



You can apply low-cost liquid **URAN** Nitrogen to many acres per day. You lose no nitrogen to the air—every bit of **URAN** soaks into the soil. **URAN** contains an ideal combination of urea, ammonium and nitrate nitrogen to feed crops well all season long. Thousands of farmers grow continuous corn, using **URAN** and mixed fertilizer to maintain profitable yields.



**Spray **URAN** on sod**—either before plow-down for row crops, or as top-dressing to build big yields of grass forage rich in protein. Work is fast and easy, since you lift nothing but the nozzle of a hose. Pumps and machinery do the work.



**Pre-plant application** of **URAN** on bare ground is another effective way to boost crop yields. Other growers side-dress crops with **URAN**, or they add liquid **URAN** to irrigation water and let water carry this powerful nitrogen fertilizer direct to the crop roots.



Your **ARCADIAN** supplier pumps golden **URAN** from his storage into a truck tank for quick delivery to your fields. There he pumps it into an applicator for speedy spreading. You can apply liquid **URAN** yourself, or your supplier will do the job for you at low cost.



**High yields of corn** pay you the best. **ARCADIAN URAN** provides the easy way to supply most of the 160 to 200 pounds of nitrogen per acre needed for money-making yields of 100 bushels per acre or more. Each extra 2 to 3 pounds of nitrogen from **URAN** makes an extra bushel of corn.



An extra ton of dry grass per acre is the dramatic difference produced here by **URAN** Nitrogen. Many soils also need mixed fertilizer and lime. **URAN** Nitrogen often boosts the protein content of grass to equal that of legumes or grain concentrate. Order plenty of golden **URAN** now for all your crops.



**High yields of cotton**, vegetables, sorghum and other crops are easy to produce with **ARCADIAN URAN** and mixed fertilizer. Give all your crops nitrogen growing power the fast, easy way. Order plenty of golden **ARCADIAN URAN** now, for plow-down, top-dressing and side-dressing.

to make sure you get  
***genuine*** **Arcadian**<sup>®</sup>

# GOLDEN URAN<sup>®</sup> NITROGEN SOLUTION



**TO MAKE IT EASY** for you to identify genuine ARCADIAN URAN, the liquid is now being colored a golden yellow. When you buy URAN, look for the ARCADIAN trade-mark on the tank and make sure the liquid is golden yellow. That's positive proof that you are getting the superior producing-power and handling ease of genuine ARCADIAN golden URAN Nitrogen Solution. Don't accept a substitute!

**URAN** is the original non-pressure Nitrogen Solution used with outstanding success by more and more thousands of satisfied farmers during the last nine years. A triumph of Allied Chemical research, URAN is a superlative combination of urea, ammonium and nitrate nitrogen

in easy-to-use liquid form. With simple equipment, labor-saving liquid URAN is applied to many acres per day. It soaks immediately into the soil to feed crops both quick-acting and long-lasting nitrogen for big yields.

**URAN** has become so popular among so many farmers that other nitrogen manufacturers are now trying to imitate URAN. But, don't accept a substitute! Make sure you get tried and true, tested and proven, genuine ARCADIAN golden URAN Nitrogen Solution.

**NITROGEN DIVISION**  
 40 Rector Street, New York 6, N. Y.



Hopewell, Va. • Ironton, O. • Raleigh, N.C. • Columbia 1, S.C. • Indianapolis 20, Ind. • Omaha 7, Neb.  
 Kalamazoo, Mich. • St. Paul 14, Minn. • Columbia, Mo. • Atlanta 3, Ga. • San Francisco 4, Cal. • Memphis 9, Tenn.

# MAKE

# GOLDEN URAN®

## YOUR GOLD MINE IN '59



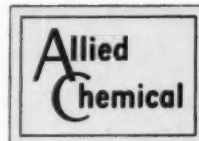
# GOLDEN URAN



The **two-page** farm magazine advertisement you have just seen is the opening gun in a **BIG 4-WAY GOLDEN URAN PROMOTION**. Millions of farmers will be seeing and hearing about the superlative advantages of **ARCADIAN® GOLDEN URAN Nitrogen Solution**, in **ADS . . . on BILLBOARDS . . . over RADIO and TV!** This powerful campaign protects you from competition, expands your sales, increases your profits!

**Old customers** and new customers throughout your selling area will be coming to you—looking for . . . demanding *only* genuine **ARCADIAN GOLDEN URAN!** Be ready to ride the golden tide to your biggest **ARCADIAN URAN** year ever! Stock up! Fill your tanks with **GOLDEN URAN**. Contact your **ARCADIAN** representative today!

**NITROGEN DIVISION**  
40 Rector Street, New York 6, N. Y.



Hopewell, Va. • Ironton, O. • Raleigh, N.C. • Columbia 1, S.C. • Indianapolis 20, Ind.  
Omaha 7, Neb. • Kalamazoo, Mich. • St. Paul 14, Minn.  
Columbia, Mo. • Atlanta 3, Ga. • San Francisco 4, Cal. • Memphis 9, Tenn.

AND STAKE YOUR CLAIM ON THE FULL **Arcadian** LINE

### LIQUID NITROGEN PRODUCTS

**URAN® Nitrogen Solution**  
Urea, Ammonium and Nitrate Nitrogen  
**FERAN® Nitrogen Solution**  
Ammonium and Nitrate Nitrogen  
**NITRANA® Nitrogen Solution**  
Nitrate and Ammonia Nitrogen  
**Anhydrous Ammonia**  
Concentrated Ammonia Nitrogen

### DRY NITROGEN PRODUCTS

**AMMONIUM NITRATE**  
Pelleted Nitrogen Fertilizer  
**UREA 45 Nitrogen Fertilizer**  
Pelleted Urea Nitrogen  
**A-N-L® Nitrogen Fertilizer**  
Nitrogen with Magnesium  
**AMERICAN NITRATE of SODA**  
Nitrate Nitrogen and Sodium

All of the above products are for direct application to the soil. **ARCADIAN Nitrogen** is also the leading source of nitrogen used in the manufacture of mixed fertilizers.

## DEMONSTRATIONS

(Continued from page 9)

(b) However, a relatively small percentage visit demonstrations. Only 25% said that they had "ever visited . . . a demonstration plot." Furthermore, 62% of midwestern farmers state that they do not even "recall reading about fertilizer demonstration plots."

(c) However, there is reason to believe that those who do visit fertilizer demonstrations are substantially influenced by them. Some 18% of midwestern farmers indicated that experimentation and demonstrations had been the means by which they had found out what nutrients their crops needed.

2. Anyone who plans to put out fertilizer demonstrations should know what he is doing and be willing to spend the necessary time to get it done right. A poor demonstration is worse than no demonstration at all. Some pitfalls are germination injury, insufficient plant population, stimulation of weeds, and so forth.

3. Farmers are more impressed by fertilizer demonstrations on average or poor farms than those on the best farms.

4. Since a major problem is that not enough farmers see demonstrations, it is obvious that the plots will be more effective if they are easily viewed from a well traveled road and are as accessible as possible.

5. Selling with demonstrations is essentially advance selling, except, possibly, in the case of hay and pasture crops. For instance, if you take a farmer out to a demonstration plot on corn this summer, you probably won't benefit from that until next year; and the farmer, though impressed at the time he saw the plot, may later have more or less forgotten what it showed. The problem is how to "keep the picture alive" until fertilizer selling time. Perhaps a colored picture taken during the growing season when the contrast was sharpest would be helpful when following up with the farmer at the time he is ready to buy his fertilizer. Also, of course, data on yields, profits, and so forth, as mentioned below, can help the follow-up.

6. A cardinal rule is that demonstrations should not be labeled or publicized until it is certain that they have been carried out right and until a visual contrast shows up. Sometimes, even though the demonstration is successful and results in more profitable yields, there won't be much visual contrast. In such case, there is no use in encouraging visitors before harvest.

7. The payoff lies in the yield difference and whether or not it is profitable to fertilize at high rates. This can be demonstrated with bushel baskets, dollar signs, and so forth. In some cases it may be possible to calculate and publicize how much additional profit would have come from fertilizing 40 acres or some other sizeable field at the recommended rate.

8. A common defect in demonstration programs is a failure to publicize. Publicity can start as soon as contrast shows up. Pictures, of

course, are important in this connection. The payoff story, perhaps the most effective story, is the one which is written after all the results are in and the economics have been worked out. One way to get publicity is to give proper recognition to the demonstrator for his cooperation and to others who are responsible for its success. Another way to stimulate interest is to use colored slides or black and white pictures for (1) displays in extension offices, (2) displays in business establishments or dealer offices, (3) meetings, (4) TV programs, (5) newspapers, and so forth.

9. The key point of a successful demonstration is that it be laid out, labeled (after contrast shows up), and publicized, so that the farmer can get some concrete guidance for himself. For this reason, as well as for guidance to the person putting out the plot, it is usually desirable to

have the soil tested in advance even though the rates of fertilization may, on some of the plots, exceed the soil test recommendations.

The above may provide a checklist which will be helpful for use in connection with demonstrations. Some of you may be in a position to influence and assist the local agricultural authorities who are putting on demonstrations, and no doubt they will welcome your help. Perhaps you are close to the local newspaper and can stimulate publicity. Then again, some of you may want to put out demonstrations of your own. In this connection, I would like to refer you not only to the Extension Service but also to Section 213 of the Fertilizer Salesman's Handbook, which gives rather detailed instructions on laying out plots, harvesting, checking and comparing results, and so forth.

In the final analysis, the desirability of using demonstrations in selling fertilizer will depend upon your own local situation. You are the best judge

CROPLIFE, March 23, 1959—17

of that. It is my opinion, however, that most salesmen and most dealers can benefit substantially from properly run fertilizer demonstrations.

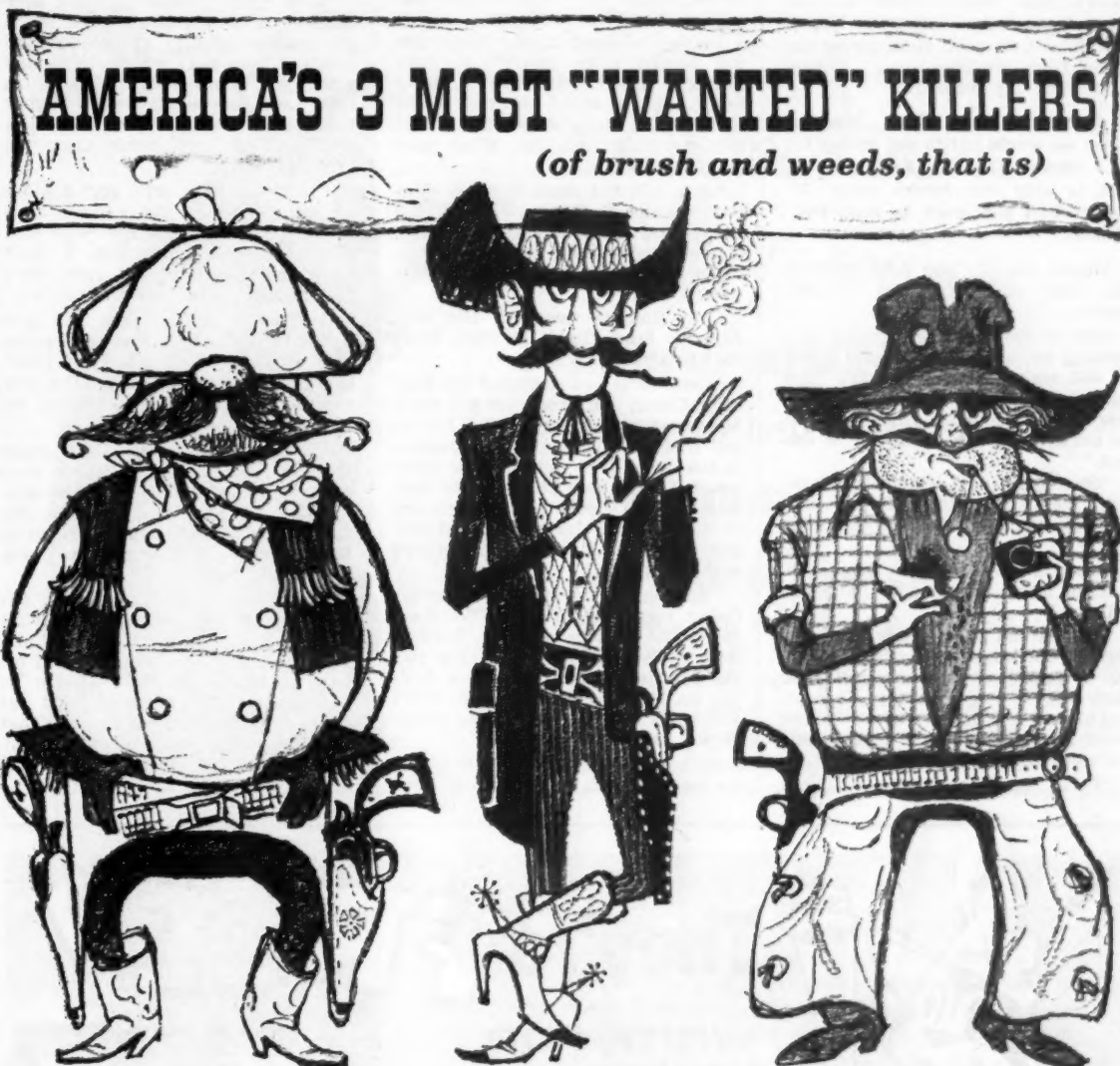
## West Virginia Sales Drop 6% in 1958

CHARLESTON, W.VA.—West Virginia farmers and other users purchased 74,906 tons of commercial fertilizer and fertilizer materials during 1958, reported J. T. Johnson, commissioner of agriculture.

This represents a decline in purchases of 6% from the amount reported in 1957, he said.

Mixed fertilizers made up 87% of the total tonnage sold. The major reductions were in the most heavily used fertilizers—3-12-6 was down 1,900 tons, 5-10-10 was down 990 tons and 12-12-12 almost 700 tons.

Mixed fertilizer with an analysis of 5-10-10 continued to be the most popular and amounted to 49% of all mixed fertilizers sold.



### The "LINE RIDER"

Specializes in knocking off brush and weeds found along utility lines, railways and highways. Destroys mixed brush with 2-Ethyl Hexyl Ester formulations of 2,4-D and 2,4,5-T, and amine formulations in areas adjacent to sensitive crops.


### The "FENCE RIDER"

Picks on isolated farm fence rows. Where volatility is no problem, uses the Butyl Ester formulations of 2,4-D and 2,4,5-T for economical kills of mixed brush. Attacks solid, resistant stands with higher acid formulations of 2,4,5-T. Low volatile formulations also available.

### The "CROP RIDER"

He's the weed specialist. Favorite hunting grounds are grain fields and pastures. Seeks out weeds in oats, flax and rice with amine formulations. Boosts yields of corn and sorghums with Iso-propyl Ester. Uses Butyl Ester for hard-to-kill perennials.

LINE RIDER, FENCE RIDER and CROP RIDER herbicides are available now in quantity for formulators and professional applicators. Write for complete technical data. Diamond Alkali Company, 300 Union Commerce Building, Cleveland 14, Ohio.

 **Diamond Chemicals**

## THIS IS THE SPRAYER THAT Broyhill BUILDS



THIS IS THE SPRAYER THAT KILLS THE WEEDS, THAT WIPES OUT THE PESTS—THAT RIDES YOUR CROPS OF PLANT DISEASE!! SEE THE SPRAYERS THAT BROYHILL BUILDS THE BROYHILL CO. DAKOTA CITY, NEBR.



Doing Business With

# Oscar & Pat



By AL P. NELSON  
Croplife Special Writer

It was Friday night and all the stores in the town were open until nine. From far and wide farm families thronged to town, especially since this was early spring and the romance and promise of a warm season beckoned. The town was ablaze with lights, and farm folks laughed, talked and visited as they shopped.

On this night Minnie had asked Oscar to drive her downtown so she could call for a pair of shoes which she was having repaired at the shoe shop. Oscar had to get back to the farm supply store, but he had an hour and a half for his supper hour, and grumpily he consented to drive Minnie downtown, using the farm supply store's light truck which he had taken home when he went to dinner.

"Couldn't we park right across the street from the shoe shop?" Minnie suggested. "My corns hurt."

Oscar snorted. "Why, Minnie, then we would haf to put money in the meter. The city free parking lot is only two blocks away. It won't hurt you much to walk two blocks."

Minnie sighed, but said nothing. She knew Oscar's mania to save money.

They drove into the crowded city parking lot, and Oscar found a space. "I will wait for you," he said, "and don't take so long. Ach, I may see a few farmers come in here that owe us money, and then I can try to collect."

"Oh, Oscar," said Minnie, "don't insult them. You know Pat doesn't want you to try to collect. That's his job."

Oscar laughed coldly. "His chob. Ach, he never works at it, that I can tell you."

So Oscar sat in the truck cab, peering out now and then as farmers got out of their cars and trucks and made their way to stores nearby. He spotted quite a few farmers who owed the farm supply store some money, and for some time.

"Look at those loafers," Oscar

growled to himself. "Here they laugh and choke just like they don't owe anybody anything and everything is fine. Those stinkers."

Peering out of the cab window Oscar suddenly saw a tall farmer coming toward his truck with a big bag of groceries under each arm and a fat wife trudging alongside. He saw it was Pete Runfels, a farmer who owed Pat and him about \$92.

So he hurriedly got out of the truck and waited for the man to come up close.

"Hi, Oscar," greeted Runfels, recognizing the fertilizer dealer. "Nice spring night, ain't it?"

"Nice for you, maybe," said Oscar sharply. "Ach, you eat awfully goot at your house. Himmel, so many groceries. Maybe you could eat less and pay us the \$92 you owe us."

Runfels stopped short. "Why you pot bellied little squirt!" he said sharply. "Don't you know I got a family of six kids, and they come first? I been payin' somethin' on that bill—ten bucks at a time. What more do you want?"

"Ach, you haf owed it to us since last summer," Oscar said, "and I always haf to sendt statement after statement. We can't use that money when you don't pay us. We got it comin', nein?"

Pete Runfels trembled. His wife held his arm. "Don't hit him, Pete. He's so small."

"Good thing you reminded me, Dorothy. Oscar, don't you ever get sick? My family's been sick and I had to pay funeral expenses for my father-in-law who lived with us for eight years. I have been strapped for cash and I'm just beginning to come out of it. I told all this to Pat, and now you jump me. I oughta flatten you with one punch."

"You can flatten me with a check," Oscar suggested sharply. "We don't care what troubles you got, Runfels. Ach, we got our own. We haf to pay our bills and when customers don't pay us, then we are in trouble. Can't you sell a cow and raise some money to pay us?"

Pete Runfels snorted. "Sell a cow, he says. Dorothy, do you hear him?"

Sell a cow. Why, it's the cows that are my mortgage lifters. They produce milk for me and give me an income. And he wants me to sell one. My God, what a man. Now I know what I am going to do—Pat or no Pat. I'm not going to buy another nickel's worth of stuff at that farm supply store so long as I live."

"Ach, that won't hurt me," Oscar retorted. "We haf to wait too long for your money anyway. We want cash business. That's what we like. That Pat sells too much fertilizer to fellows who can't pay anyway."

"Well, I wouldn't live tight like you and your wife do for anything in the world," Pete snorted. "If my wife wasn't with me I'd plaster you against that truck fender."

"I lif right," Oscar snapped with dignity. "I got my house paidt for. I got money safed. I got stocks and bonds. I own part of the bank and when you come and try to get a loan, I will fix you. Have you got your bills paidt? No, you ain't. I foundt that out. I know more than you think I know."

"Come on, Pete, let's go," pleaded his wife dragging him toward their car. "Don't get into a fight with him. I see the Salters coming. I don't want them to hear this row. She's always looking for gossip about me."

Grumbling, Runfels put his groceries in his car, started the engine and with an angry whine of gears backed out like a shot. The car streaked out of the parking lot, an indication of Runfels' rage.

A few minutes later, Minnie came limping from the shoe repair shop with her shoes. "Oh, Oscar," she said, "I wish we had parked closer. My feet hurt." Then seeing his grim face. "You—you didn't collect any money, did you?"

"No, I didn't," snapped Oscar, "but I sure toldt that Pete Runfels what I think of him for not paying his bill. Fancy groceries he can buy—and his wife as fat as an elephant, but us he can't pay. Now I will tell that Pat to go outd and get our money. That Runfels will go bankrupt pretty soon, if he keeps eating such fancy stuff all the time."

## Gloomicides

Reassuring theater attendant, to late-comer arriving in the intermission: "You're all right, you've missed the worst of it."

Some folks figure they are civic-minded just because they complain about the town clock, watch the home team on TV and vote against the school bonds.

A Kansas woman tells of going to the city to attend a cattlemen's convention. She made up her mind she would have something unusual to wear on the trip, so she made herself a blouse and embroidered it with every cattle brand she knew of.

In the hotel where the cattle folk were staying, she waited while her husband registered, and noticed two old cattlemen really giving her blouse the once-over. Finally one of them remarked in a voice that could be heard way up the canyon: "That critter sure has changed hands a lot, ain't she?"

The sale seemed assured and the diplomatic salesman was beginning tactfully to remind the prospect that the special engine involved an additional charge. Likewise the highfared fenders, concaved doors, vented hood, grooved top and gold-chromed grill, all were optional—at extra cost.

"I won't stand for it!" fumed the prospect. "Can't you just sell me the car without all those extras?"

"Certainly," beamed the salesman. "Where do you want the doorhandles delivered?"

Two barflies stood at the mahogany bar watching the approach of an old crony.

"I don't know what's happened to Jim lately," said one of them, admiringly. "He's getting quite a spring in his stagger."

An inebriated gentleman was downtown and realized he was in no condition to find his way home by himself. He staggered into one of the phone booths on the street and called his wife to come get him. He couldn't tell her where he was, however, and on his wife's instructions he left the booth to get his bearings. When he returned to the telephone he was heard to exclaim:

"I'm at the corner of Walk and Don't Walk."

An old man who lives in Georgia still frequently complains about the suffering and the damage caused by the conflict which he always refers to as "The War Between the States."

"We're still suffering on account of that war," he remarked recently. "But what made you think of that today?" he was asked.

"I'll tell you why I thought of it," snapped the old gent. "When those damyankees come through here with Sherman, they broke the hinges on the door of our smoke-house; today the dogs got in and ate up three hams before we found out."

Mother of small boy to child psychiatrist: "Well, I don't know whether or not he feels insecure, but everybody else in the neighborhood certainly does!"

On his tenth anniversary the band-leader who played over 2,000 dance dates was asked, "What have you had the most requests for?"

Replied the maestro, "Where's the men's room?"

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P. O. BOX 246, SAVANNAH, GEORGIA

**YESSIR!** You can send me FREE — — — This many:

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## SOIL TEST

(Continued from page 9)

er." This means that you have the blessing of the agronomists in pushing soil tests.

The fertilizer industry is one of the few industries which has official agricultural groups making tests on an individual field basis to determine what is needed, and then recommending the amount of the industry product needed. The information is being extended to the fertilizer industry. All we need to do is reach out and take it.

Why soil tests help the industry:

1. Grower feels dealer is sincere.
2. Grower uses fertilizer dollar more efficiently.
3. Grower uses more fertilizer.
4. Grower understands fertilization program better.
5. A concrete thing to discuss with grower.
6. Brings in new grower customers.
7. Grower is a satisfied customer, will be back next year.
8. Grower has more money to spend, can buy more of what dealer sells.

Almost invariably, recommendations based on soil tests will suggest more fertilizer than the farmer is using. Occasionally the fertilizer industry complains that the average recommendations based on soil tests are not high enough. This may be true for a few individual farmers, but on request, special recommendations will be made for these men.

The vast majority are using much less than is recommended. For example, in Ohio in 1957 the average use per cropland acre, excluding pastures, as compared with estimated need was:

	Use	Need
N	12.0 lb.	double
P <sub>2</sub> O <sub>5</sub>	26.8 lb.	over double
K <sub>2</sub> O	24.8 lb.	double

Parts of a soil testing program include:

1. Sampling.
  2. Testing the soil.
  3. Calibrating tests.
  4. Interpretation and recommendations.
  5. Servicing and determining how well the recommendation worked. (The salesman and dealer can best assist in 1 and 5.)
- The biggest problem in soil testing today is taking the samples. The farmer believes in soil testing but does not get around to sampling. Why? Here are some of the answers:
1. He keeps putting it off until just before he needs fertilizer.
  2. He thinks it is too complicated.
  3. He believes he does not have proper tools.
  4. It is difficult to send in samples.
  5. He is not sufficiently motivated.

**Dealer opportunity.** Here is a real opportunity for the dealer. He might try to motivate the grower by having boxes, information sheets, and sampling tools handy. He might promote a special soil sampling week. These are all good but the sampling still depends on the farmer.

A surefire way to get the samples is for the salesman or dealer to take them himself or hire it done. He must receive training on taking samples, however, and his county agent or extension specialist will be glad to provide training. The salesman then sends the sample to an official laboratory for testing.

**Cost.** Cost of sampling will vary considerably but it should average around \$1 per sample. There are many ways to take care of this. One possibility is to charge the farmer for sampling and the testing. This charge can be deducted from the bill if the farmer buys his fertilizer from the dealer. The farmer will probably appreciate testing more if he is charged initially.

In Ohio when the recommendations

are mailed to the farmer, a copy goes to the salesman or dealer who sent in the samples. This is a signal for an approach to the farmer to help explain the recommendations and to sell him the fertilizer. What better entree is there?

Farmers are demanding more service. This is an incentive for the dealer to get the knowledge to be able to help. Knowledge, not only on proper fertilizer use, but also on management practices and limiting factors is essential. This knowledge can be obtained from official sources through schools, field days, etc. A well-informed dealer can be of much help to the farmer as he is the last man to see the farmer before the fertilizer is purchased.

Observation of the customer's crops during the growing season does three things: (1) Helps to determine if fer-

tilization program is adequate. (2) Convinces grower that the dealer is sincere. (3) Encourages the customer to come back.

Soil analysis and recommendations are usually good for four years or so. Hence the initial effort and cost of sampling and testing soil is an investment. It pays dividends for three or four years in terms of improved yields for the grower and more sales for the dealer.

**Lime is the first fertility factor to consider in order that full returns be obtained from the fertilizer.** Since soil test recommendations show lime requirement as well as fertilizer need, the dealer is in an excellent position to stress liming. Balanced fertility is essential.

**Opportunities for the manufacturer.** Dealers may not adopt soil sampling very rapidly by themselves. The opportunity for the manufacturer is to develop a blueprint for soil sam-

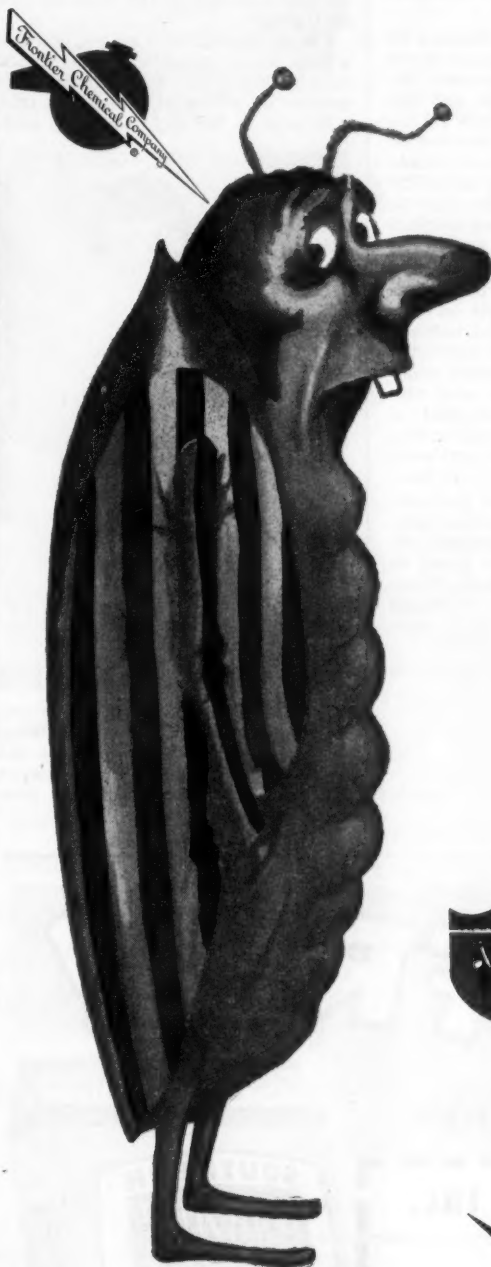
CROPLIFE, March 23, 1959—19

pling and service which dealers might follow. This will take (1) considerable planning, (2) education of dealers, and (3) continued contact with dealers by agronomists and salesmen.

**Opportunity for the dealers.** As a trial, how about selecting 25 prospective customers and following through with a soil sampling and service program. Compare your sales in this group for the next two or three years with a group of 25 for whom you do little or nothing.

### FLORIDA FERTILIZER SALES

TALLAHASSEE, FLA.—Consumption of mixed fertilizers and materials in Florida during January amounted to 151,036 tons, reported Nathan Mayo, commissioner, State of Florida Department of Agriculture. This total broke down into 106,090 tons of mixed fertilizers and 44,946 tons of materials. Most popular mixture was 4-5 with more than 13,000 tons sold.



# LOOK OUT, Bo Weevil...

here comes **FRONTIER BHC**  
offering all these advantages  
to formulators:

### LOW GAMMA (14%) BHC

For production of field strength dust or 12% dust concentrate. Factory-processed to flow freely and offer excellent grinding characteristics . . . to speed your production. Packed in 75-pound polyethylene paper bags for easy handling and storage. Warehoused at Wichita, Kansas and Macon, Georgia for fast delivery to you or convenient pickup by your own trucks.

### HIGH GAMMA (36%-42%) BHC

Recommended for production of BHC wettable powders, dust concentrates, solutions and emulsions. Contract for your BHC from Frontier — and benefit from advanced quality control in one of the industry's newest plants . . . and fast, friendly Frontier service, backed by the resources of Vulcan Materials Company . . . your assurance of reliability.



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#### PLANTS

Wichita, Kansas  
Denver City, Texas  
Dumas, Texas



## FARM SERVICE DATA

### Extension Station Reports

If farmers are to grow good vegetables in 1959, they will have to do a good job of fertilization, according to Carl Hardin, acting extension specialist in vegetable gardening at West Virginia University.

First, they should start out by adding organic matter to the soil. If they have a cover crop, fine. Or they can use manure at the rate of 15 to 20 tons per acre. If the garden hasn't been tested for lime requirements for some years, a sample of the soil should be taken to a county agricultural agent for testing. Lime should be applied only as the agent recommends because too much lime can be just as harmful as not enough lime, Mr. Hardin emphasized.

Fertilizer should be applied at the rate of 5 lb. per 100 sq. ft. Two pounds per 100 sq. ft. should be applied to the garden before plowing, 2 lb. after plowing, and 1 lb. should be applied as a band application on each side of the row (per 50 ft. of row).

Nitrogen fertilizer should be on hand to apply to the vegetables throughout the growing season, Mr. Hardin advised. This should be ap-

plied at the rate of 1 tablespoonful per plant or foot of row. On the green leafy vegetables, such as cabbage, kale, or broccoli, the application should be made about every 2 weeks. With tomatoes, it is necessary to make only one application—when the fruit is about the size of a marble.

★

"Fertilizer and lime complement each other in the soil and neither alone is as effective in crop production as the two in proper combination," says G. R. Epperson, associate agronomist of the Virginia Polytechnic Institute Agricultural Extension Service.

Lime improves fertility efficiency in the soil by making phosphate more readily available. It increases the availability of molybdenum, and the activity of soil bacteria which aid nitrogen fixation and help decompose organic matter. In addition, it counteracts acidity, reducing the solubility of substances which may be toxic to plants, as well as furnishing calcium and magnesium needed by plants and micro-organisms.

In a recent experiment on the effect of lime-use and soil pH on corn production, it was found that unlimed soil with pH 4.6 seriously restricted root development. As a result stalk, leaf and ear development was also poor, even where the equivalent of 1,000 lb. of a 10-10-10 fertilizer was used. Yields obtained in this test were approximately 35 bu. of corn an acre.

Using the same fertilizer and rate of application, yields of approximately 100 bu. of corn an acre were obtained where the soil was limed to produce a pH of 6.0 or above. Thus, for the addition of 3.5 tons of ground limestone per acre, corn yields were increased by about 65 bu. an acre.

At \$6 a ton for the limestone spread on the soil and only \$1 a bu. for the corn produced, a gross return of \$44 an acre could have been realized in this situation. Crops that would follow on this soil would also yield better, giving a greater return from the use of lime.

## FARM CALLS

(Continued from page 9)

the customers. This approach paid off, and in 1952 he moved to the present location. While he does a lot of business in the store itself, he still takes the store to the farmer.

In fact, this year he hired a young college graduate with a background in business administration, advertising and salesmanship. This young fellow, Tommy Harris, spends five days a week calling on customers. He aims at talking to 20 people a day and reaches this goal most of the time. Another man is on the road three days a week, and occasionally Mr. Woods takes time out from running the business and goes out into the field. Between the three of them, they see some 250 regular customers per week. Orders are taken and delivered the next day by truck.

What advice did Mr. Woods give his young college graduate before sending him out in the field for the first time?

"Well, there's not a lot you can tell a man for all situations," Mr. Woods says with a grin. "You give him the general principles of selling and that will help in his approach. But each

customer is different in some way and you've got to take that into consideration."

Mr. Harris spoke up, "Mr. Woods told me one thing that's been really helpful. He said to remember the farmer is a busy man and often may be in a hurry. When you're talking to him and he begins to get fidgety, it's a good idea to leave. Chances are you've sold all you're going to during that call. And you'll get a much better reception on your next call."

Mr. Harris says he gets lots of different questions from farmers, some technical and others general. Right now he's doing plenty of reading to add to his knowledge of farming in the area.

Customers are offered a complete line of seed, feed, fertilizer and farm supplies. Chickens and turkeys are carried mainly as a service and as a means of building the store's feed business. Woods Farm Supply also offers custom work in shelling popcorn and field corn and in applying herbicides and liquid fertilizer.

Mr. Woods entered custom herbicide work in cotton when the practice first started, he says, because when something "new comes along, you have to help farmers get started using it." He now has five herbicide rigs for custom operation.

This custom work—and the emphasis on taking the store to the customer—doesn't mean that Mr. Woods overlooks ways to get them in the store. He wants them to come, of course, and has used advertising in the local paper for this purpose. The store employees fill even the smallest order with enthusiasm saying, "You'll be surprised how those small sales add up."

In 1958 Mr. Woods became one of ten voluntary observers in a pilot agricultural weather forecasting program for the Mississippi Delta area. This action has helped business in a number of ways.

In the first place, he erected the equipment necessary for making his observations along the highway in plain sight of traffic, thus attracting a lot of interest and attention. Customers telephone him every day regarding weather conditions that affect different farming operations, such as the application of insecticides and defoliants. Numerous people have stopped by the store or have telephoned and asked, "I've seen all those things out there beside the highway—I just wanted to know what in the world they are."

The weather information serves another useful purpose. Each day Mr. Woods telephones the county agent about the weather conditions in the area. The agent makes use of this data in his work with farmers, and the long-run effect is a more enlightened group of farmers.

Mr. Woods uses the data in another way. He attracts people to the store with a blackboard attached to the customer side of his cash register. Twice daily he posts the high and low temperatures, as well as the wind speed, on the blackboard.

The salesroom to which these customers come is spacious and well-arranged. Customers walk between aisles of attractive displays of farm supply products. To the rear is Mr. Woods' private office. When a customer wants a private chat, Mr. Woods takes him there, thus completing the selling and service cycle of going to the customer, getting him to the store, and talking over problems in private.

### DOMESTIC CHARTER

BATON ROUGE, LA.—Among domestic charters issued by the secretary of state's office was: Louisiana Limestone Distributors, Inc., 121 Bolton Ave., Alexandria, La., \$18,500, fertilizers and agricultural limestone.



OLIVER WOODS, owner of Woods Farm Supply Co., Tunica, Miss., keeps his office in the rear of the store. In here he takes his customers for private talks concerning their farm problems.

## DOOM

### MILKY DISEASE SPORES

#### Control

### JAPANESE BEETLE GRUBS

The Japanese beetle spends most of its life in the grub stage in the soil. The microbial spores of milky disease have proved fatal to these grubs without affecting other forms of life. One easy application of DOOM is all that is needed.

This self-perpetuating and useful grub disease will spread.

10 oz. pkg. 2,500 sq. ft. lawn \$3.59  
20 oz. pkg. 5,000 sq. ft. lawn 7.10  
2 1/2 lb. pkg. one-fourth acre 14.00

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—COTTON-PICKIN' PROFITS FOLDERS

—SETS OF NEWSPAPER MATS  
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PACKAGING SPECIALIST  
BOB BUCK**

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A little weight reduction can go a long way in trimming Multiwall costs. Union Packaging Specialist Bob Buck demonstrated just how far during a study of one company's bagging operation.

The company had been using a baler bag of 160# total basis weight. Union's analysis proved that a 70/70 bag would be equally effective. The 20# reduction resulted in a savings of \$35,000 a year.

This economy came through Union's 5-Star

Packaging Efficiency Plan. Among the other improvements were: (1) A new, revised specifications manual which simplifies and streamlines inventory control. (2) Standardization of all bag printing. This assures delivery of completely uniform print copy from the firm's various suppliers.

Union's plan is producing thousands of dollars worth of savings for Multiwall users, large and small. It might point the way to a greater return on your packaging investment. Write for details.

### Union Multiwall Recommendations are based on this 5-Star Packaging Efficiency Plan



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through better  
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UNION'S PACKAGE ENGINEERING DEPARTMENT will study your Multiwall bagging methods and equipment and make appropriate recommendations, regardless of the brand of Multiwalls you are now using.

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## Unknown Crop Limiting Factors Subject of South Carolina Search

CLEMSON, S.C.—In an effort to find out what else limits production of corn, soybeans and cotton after known limiting factors have been eliminated, the South Carolina Agricultural Experiment Station will undertake a new research project.

The project will start this spring, announced Dr. O. B. Garrison, director of the station.

A grant of \$2,000 from the National Plant Food Institute will be used to aid in the research, said S. L. Tisdale, southeastern regional director of NPFI.

The work will be carried out at the Edisto experiment station near Blackville, S.C., and will be supervised by Dr. Tom C. Peele.

In discussing this work, Dr. Peele indicated that initially those factors presently known to be limiting plant

growth would as far as possible be removed. Soil acidity would be corrected by liming the experimental area to a pH of 6.5. Care will be taken to work the lime in thoroughly and carefully to a depth of 6 to 8 in. The fertility level of the soil will be built up in one case by the addition of 150 lb. per acre of  $P_2O_5$  and  $K_2O$  and in another by the addition of 500 lb. per acre of each of these two plant nutrients. The carriers of these plant nutrients will be broadcast and worked in thoroughly to a depth of 6 to 8 in. and these treatments will be imposed each year for the several years which the experiment is to run. Two fertility levels are being included to determine if there is a response to applications of the higher rates of phosphate and potash.

The crops grown will be irrigated when the soil moisture tension reaches 20 cm. at a depth of 1 ft. Varieties genetically capable of producing the highest possible yields will be planted and every effort will be made to control insects, diseases and weeds.

When the crops are planted, additional quantities of a complete fertilizer will be applied as a starter. Throughout the growing season the nutrient element content of the plants will be checked to determine if any of the major plant nutrient elements are limiting growth. Prior to the establishment of the plots, the soil will be characterized both physically and chemically by horizon to a depth of 3 ft.

A study of the yield and analytical data should provide a clue as to the factor or factors holding the yield to the level obtained during that particular year. The following year treatments would be included which would presumably remove the effect of the factor thought to be limiting. This procedure would be continued for several years in the attempt to raise the yield of those crops successively higher and at the same time describe those conditions which must be altered in order for the crops to produce those yields they are genetically capable of producing.



E. R. Marshall

**CRAG PROMOTION**—Appointment of E. R. Marshall as technical manager, agricultural chemicals (International), Union Carbide Chemicals Co., Division of Union Carbide Corp., has been announced by Dr. R. H. Wellman, manager of Crag agricultural chemicals. Dr. Marshall will serve the overseas development and promotion of Union Carbide's product line of agricultural chemicals. He will headquarter with the Crag agricultural chemicals sales staff at White Plains, N.Y. Dr. Marshall formerly was coordinator of field testing and head of the Union Carbide research farm at Raleigh, N.C.

## Ag-Chemical Employment Holds Steady in California

SAN FRANCISCO—Employment in agricultural chemical industries in California held fairly steady, except for seasonal variations, during the first nine months of 1958, according to figures of the California State Department of Employment.

In a special report to Croplife, the department estimates the number of firms manufacturing pesticides during this period at an average of 35 during the nine months with employment holding at about 1,300—rising to 1,400 in the early spring and dropping to 1,200 in the fall at the end of the season.

Twelve of these firms employing about 450 persons were located in Los Angeles, and seven employing about 600 in the San Francisco area. The other 15 to 16 smaller firms, employing about 200 to 300 persons between them, were scattered in other areas of the state.

It took twice the number of firms, but only a few hundred more persons to meet the 1958 demand for fertilizer production, according to the figures. There were about 75 firms in this field during the nine months with employment ranging from 1,500 in January, reaching a peak of 1,800 by May, and dropping again to 1,500 in September.

Approximately 30 firms were in the Los Angeles area employing an average of 500 persons per month, and although there were only eight in San Francisco they accounted for 400 employees. This leaves about 35 firms scattered elsewhere in the state with about 700 employees between them.

Farm and garden supply stores, retailing agricultural chemicals, showed a seasonal rise of from 5,600 persons in January to a peak of 6,800 in June, followed by a drop to 5,900 in September. The number of such stores increased from 1,253 to a peak of 1,284, dropping again to 1,274.

An average of about 412 stores employing about 1,900 persons were located in the Los Angeles area, and about 150 employing about 600 were in the San Francisco Bay area.

Because of a revision in industrial classification, effective in January of 1958, figures of the Department of Employment for earlier years are not comparable.

**You'll get a better understanding of the fertilizer market from this valuable new book**

# Crop-Use Patterns

## of Fertilizer

in the United States

by

J. R. ADAMS

L. B. NELSON

D. B. IBACH

U.S. DEPARTMENT OF AGRICULTURE

This significant report was compiled by the U.S. Department of Agriculture after thorough studies of fertilizer use in the United States. Crop-Use Patterns covers questions which, until now, have not been adequately answered. Crop-Use Patterns is based on information gathered from every fifth farm surveyed in the most recent U.S. Census . . . providing a broad base of national information.

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what portions of croplands receive fertilizer  
how fertilizer is used among major crops  
how much acreage for each crop is fertilized

### Specific fertilizer uses analyzed are:

Corn Tobacco Wheat  
Oats Cotton Potatoes  
All Crops and Cropland Pasture  
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## Southern Plant Pest Control Members Discuss Programs

GULFPORT, MISS.—Representatives from the 11 states in the southern region of the Plant Pest Control Division, U.S. Department of Agriculture, met recently in Gulfport to discuss the various programs being carried on concerning pest control and eradication.

C. C. Fancher, director of the southern region which is the center of all operations for the 11 state area, was chairman of the annual meeting.

Discussions on the fire ant program revealed that extensive acreage in nine states of the southern region was known to be infested with this pest when the federal government entered into the program in the fall of 1957. The treatment of these infested areas follows the general plan of periphery applications and treatment of shipping points, docks and other places to prevent further spread. There is a systematic block treatment of the generally infested areas to eradicate the ants.

As of Feb. 15, 36,976 acres had been treated in Mississippi, but 4,297,395 acres remaining need treatment.

G. G. Rohwer, Florida supervisor, discussing the effects of the fire ant program on wildlife said scientists have a pretty good idea how serious losses to wildlife will be and pointed out that studies being made show no damage of any consequence. He said it was important to remember that opinions will differ, as for instance a bird watcher with one opinion and a farmer with another.

Mr. Rohwer added that in localized area losses, repopulation will offset the loss while enough data has been accumulated to indicate that fish ponds can be restocked after a 60-day period.

Reporting on the white-fringed beetle program, Mr. Rohwer said losses were directly associated with water contamination. "In any large scale program," he said, "we will have the problem of some loss of wildlife. It will be local in nature and will be taken care of by repopulation. On the Mediterranean fruit fly we treated approximately 30,000 acres in Florida. As far as we know, there was no adverse effect of any consequence."

He stated that he does not know all the answers but believes the wildlife problem is not too serious.

Other programs discussed by the group included the pink bollworm, witchweed, hoja blanca rice disease which recently was found in Hancock County and the soybean cyst nematode.

It was decided survey activities should be increased to control the pink bollworm while the white-fringed beetle can be eradicated if sufficient funds are available. A combination treatment will be made on areas infested with white-fringed beetle and the fire ant when possible.

C. H. Gaddis of the methods development section, Gulfport, described the witchweed as a semi-parasitic plant. He discussed the catch crop program, stating that it involves the growing of host plants as a catch crop. This allows the witchweed to grow and be plowed under before it has an opportunity to produce seed.

The hoja blanca disease is in Mississippi for the first time while the soybean cyst nematode has been found only in DeSoto County so far in Mississippi, but is known to exist in Arkansas, Kentucky, Missouri, North Carolina and Tennessee. The cyst could cause extensive damage to the soybean crop if permitted to spread.

Mr. Fancher said it is hoped that

research will soon develop sufficient information so that eradication of this pest may be planned in Mississippi.

## Oregon Fertilizer Sales Off 1,000 Tons from '57

PORTLAND, ORE.—Fertilizer sales of 182,687 tons in Oregon last year dipped 1,000 tons from the 1957 high. Figures were based on inspection fee reports to the state department of agriculture.

However, sales were up almost 50,000 tons from 1952, the first year of reporting.

Sales of agricultural limes at 49,079 tons were off 303 tons and agricultural minerals were also down, from 15,197 tons a year earlier to 13,125 tons in 1958.

All time high reported for limes was 54,043 tons in 1952; and for the minerals products, the top sales were 18,284 tons in 1956.

## Nitrogen Division Starts Weather Forecast Plan

NEW YORK—Nitrogen Division, Allied Chemical Corp., has begun distribution of monthly weather forecasts to its fertilizer dealers and manufacturer customers all over the country. The forecast for each month will be mailed about a week before the month begins.

"Weather is one of the most important factors in the fertilizer business," a Nitrogen Division spokesman pointed out, "and we expect the new service to help our customers in making sales and manufacturing plans."

The forecasts, said to be 80% accurate, are prepared for Nitrogen Division by Weather Trends, Inc., a private weather forecasting service.

In addition to a summary giving over-all weather predictions, each forecast will include colored charts and maps showing expected precipitation and temperatures in each section of the country.

CROPLIFE, March 23, 1959—23

## SALES IN NEW MEXICO

STATE COLLEGE, N.M.—Fertilizer sales in New Mexico during the fourth quarter of 1958 amounted to 2,346 tons, reported the State Department of Agriculture.

## \$75,000 FIRE

HARDWICK, VT.—Large quantities of grain, fertilizer and farm equipment were lost when fire destroyed the W. S. Hill farm products store here. Losses were estimated at \$75,000.

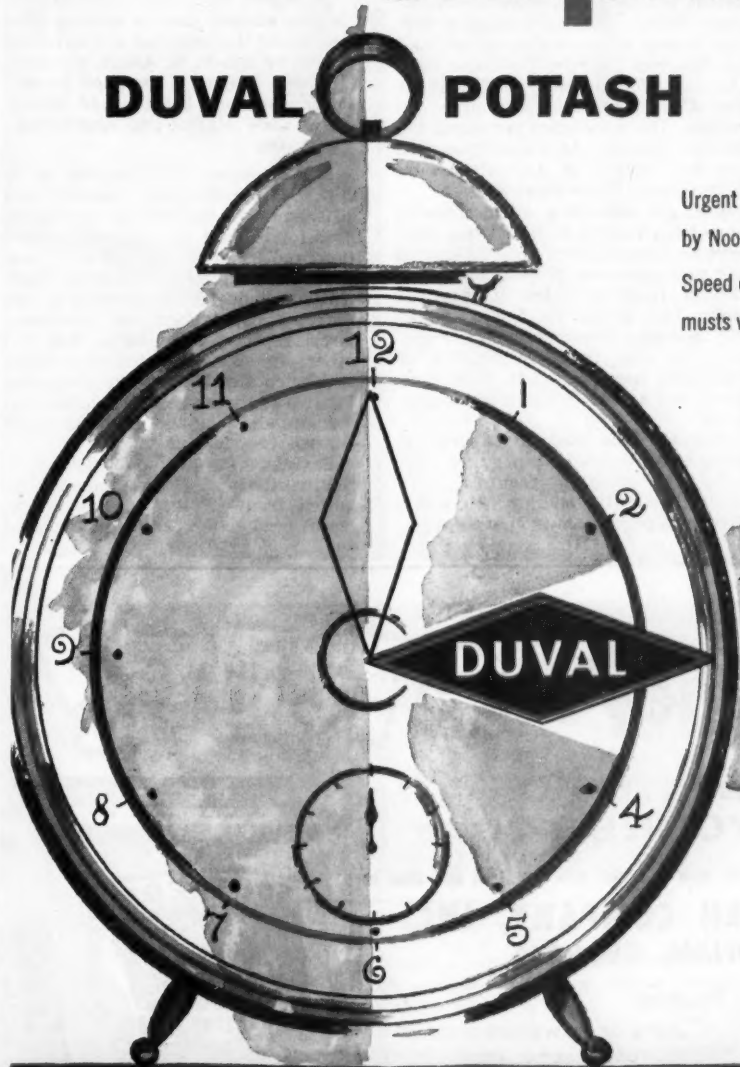
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## ALABAMA MEETING

(Continued from page 1)

for boll rots, since tests at Tallassee and Thorsby, Ala., showed rotting to be closely correlated with lodging and rates of nitrogen. Varieties showing little or no lodging had only 6% rotted bolls as compared with 57% rotting of badly lodged cotton. Under irrigation when the recommended rate of 120 lb. of nitrogen is used, the researcher said, boll rot losses will often amount to 10%.

Root-knot nematodes, the other primary cause of cotton disease loss in Alabama, show rapid population build up where high moisture levels are maintained, Dr. Smith revealed. Wilt tends to increase as nematodes build up, he said, since nematodes supply the means of entrance for the wilt fungus. Once again, variety was given as the best method of control. He said Auburn 56 and All-in-One varieties have high resistance to nematodes and wilt.

Good management is the key to controlling insects in irrigated cotton, pointed out Dr. M. E. Merkl, USDA entomologist, Leland, Miss. Management of fertilizer, water and stand all affect insect control, he explained. With too much nitrogen and water applied, excessive growth of cotton makes insect control measures difficult, he said. In addition, excessive irrigation has decreased yields in Mississippi Delta studies, he revealed.

Experiences with growing cotton under irrigation at the Foundation Seed Stocks Farm, Thorsby, Ala., were related by G. T. Sharman, Jr., superintendent. He said their experience indicates that proper insect control is a must for maximum benefits from irrigating cotton. He

pointed out the need for an insect control program beginning early and continuing late into the season.

A suitable method of applying dust or spray is usually a problem in irrigated cotton, Mr. Sharman said. Unless airplane applications can be made, he explained, two or more rows of cotton may have to be sacrificed at intervals throughout the field to apply insecticides.

Ben Walker, Macon County, Alabama, farmer who is successfully growing cotton under irrigation, reported on his experiences. A panel was moderated by Alexander Nunn, Progressive Farmer editor.

Good control of cotton insects with fewer treatments has been obtained in Alabama, Dr. F. S. Arant, zoology-entomology department head, revealed. He said good results were obtained by treating at 8-day intervals with toxaphene, endrin, dieldrin, Guthion or Sevin dusts at twice the amounts normally used for 4-day interval applications. This was as effective as using the same materials every 4 days.

New officers of the Alabama Association for Control of Economic Pests, which met in conjunction with the conference, were Dr. W. G. Eden, experiment station entomologist, president; W. T. DeBusk, Pennsalt Chemical Corp., Montgomery, vice president; Dr. J. W. Rawson, station assistant entomologist, secretary-treasurer; Walter Grimes, extension service survey entomologist, editor, and Joe Sanders, Cullman Feed and Seed Co. and W. O. Owen, USDA Plant Pest Control Office, Montgomery, directors. The association sponsored the two-day program in cooperation with the API School of Agriculture and Agricultural Experiment Station.

Large quantities of insecticides have been wasted in the Cotton Belt because farmers were not told how to use their sprayers properly, declared Gilbert Betulius, sales manager of Hahn, Inc., Evansville, Ind., in pointing up dealer responsibilities to farmers. He said spray application of pesticides must be made more fool-proof and simple to eliminate human error.

Mr. Betulius said that spray is more effective and cheaper than dust but that spraying requires more knowledge by the operator. He said a sprayer operator must have knowl-



**NEW OFFICERS** of the Alabama Association for Control of Economic Pests elected during the Alabama Pest Control Conference are shown above. Seated is Dr. W. G. Eden, entomologist, Alabama Polytechnic Institute Agricultural Experiment Station, president. Left to right standing are W. T. DeBusk, Pennsalt Chemical Corp., Montgomery, vice president; Walter Grimes, extension service survey entomologist, editor; George P. Wilson, Wilson Air Service, Foley, director; Joe Sanders, Cullman Feed and Seed Co., new director; and B. P. Livingston, State Department of Agriculture, Montgomery, retiring president and new director.

edge of various sizes and types of nozzles and a nozzle chart to show the gallons applied per acre at a set speed and pressure if he is to do a good job of spraying. A dealer that cannot supply the needed information should not be selling spray equipment, he declared.

A report on a new regional research project that is seeking life secrets of the imported fire ant was given by Dr. F. S. Arant. He said the new project is designed to answer questions being asked about large-scale control and eradication programs.

A new phase of the project to be started soon involves treating two 20,000-acre tracts with an insecticide used for fire ant control and eradication, and using an area of equal size as a check area. An intensive study will be made before treating to determine populations of mammals, birds, reptiles, amphibians, fish and other organisms. He said the studies will be continued after the treatment for two to three years to measure immediate and long-range effects of the control measures.

Savings of millions of dollars to Southeastern livestock producers resulted from the cooperative screw-worm eradication campaign, reported

Dr. R. S. Sharman, chief staff officer of eradication program. Good progress is being made in the program that releases sterile male screwworm flies to reduce the population of the destructive pests, he said.

Last year only two cases were found in Georgia—in the extreme southern part of the state—and 85 screwworm cases were found in three contiguous Alabama counties near Montgomery, where sterile flies were released over 20,000 square miles. The most recent Alabama infestation was found late in November last year. Dr. Sharman cautioned about optimism based on the present favorable situation, however.

The continued spread of the European corn borer was described by Dr. W. G. Eden. He said the pest was found in 11 new counties in Alabama in 1958, the most southern being Montgomery County. He reported studies at the Tennessee Valley and Sand Mountain substations showing an average corn yield reduction of 4% for each borer per stalk. He said DDT, endrin, toxaphene and heptachlor were all highly effective in reducing the number of borers.

In a discussion of insect control of legumes, Sidney B. Hays, assistant in entomology at the API Station, reported that insecticidal residues are a limiting factor in using insecticides on legumes. Except in a few cases, he said, tolerances on legumes have not been established. This makes it difficult to issue recommendations and hampers use of insecticides to control damaging legume pests, he said.

Speakers from Texas, Florida, Indiana, New Jersey, Louisiana, Mississippi and Washington, D.C., as well as from all parts of Alabama, were on the program that was attended by more than 200.

### Alfalfa Weevil Found In Six Georgia Counties

ATHENS, GA. — Surveys in six north Georgia counties — Oconee, Clarke, Putnam, Wilkes, Oglethorpe and Lincoln—showed that the alfalfa weevil is present and is presently causing damage, reported C. R. Jordan, extension entomologist-project leader at the Georgia Agricultural Extension Service.


Alfalfa weevil larvae as well as feeding damage were present in all fields inspected with the exception of four fields which had early soil treatment with fumigants. No larvae were found in the four treated fields.

Feeding injury in untreated fields varied from light to moderate. In some fields as high as 50% of the plants showed feeding injury, said Mr. Jordan.

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## Aerial Spraying Seen As Woody Plant Control

WASHINGTON — Effective and economic control of undesirable woody plants without damage to pine, one of the major management problems in growing pine in the South, is indicated through cooperative research on aerial spraying by the U.S. Department of Agriculture and Louisiana State University.

Fred A. Peevy of USDA's Agricultural Research Service, and Paul Y. Burns of Louisiana State, found the most effective treatment for hardwood control was with a low volatile ester of 2,4,5-T, applied in an oil-water emulsion at the rate of 5 gal. an acre in the late spring. By volume, the emulsion contained ten percent 2,4,5-T.

At a cost of \$7.50 to \$9 an acre at present prices, the treatment gives effective control of blackjack oak, post oak, black oak and sweetgum. It provides fair to good control of red oak and blackgum; fair control of hickory and white oak, and poor control of red maple and water oak.

Better kill is obtained on ridges and slopes than in creek bottoms because the more susceptible species such as some oaks and sweetgum, are commonly found on ridges and the more resistant species in bottoms.

Good control of susceptible species is obtained regardless of size or crown class. Herbicidal damage to the pines is negligible.

## Wisconsin Fertilizer Sales Top 1957 Mark by 15%

MADISON, WIS.—Fertilizer sales in Wisconsin during 1958 amounted to 474,544 tons, reported W. B. Griem, State Department of Agriculture. This compares with 410,596 tons sold in 1957. The increase was approximately 15%.

Complete mixed goods accounted for most of the total with 338,668 tons being sold. Phosphate and potash mixtures sold amounted to 90,980 tons.

## SALES OUTLOOK

(Continued from page 1)

outbursts from feed grain producers over the lower levels of price support announced by USDA, except from the Kansas area grain sorghum growers and those in the big irrigated area of Texas.

These complaints appear to reflect wheat producers' fear that they will not be able to utilize that part of their land taken out of acreage allotments for production of sorghum grains. The deep cut in the level of support for grain sorghums is attributed to a decision on the part of Sec. Benson that sorghum grains are now mounting as a component of the feed grain surplus and it would be meaningless to continue high levels of support for that crop—half of the production of which last year went into the Commodity Credit Corp. loan default kitty. Also USDA seems to have preferred to curtail sorghum production incentives since the crop was gaining ground at the expense of corn.

Heavy acreage for cotton seems indicated this year with a heavy preference for plan A, which requires the producer to remain with his pro-rata share of the 16 odd million national acreage allotment. That will also permit him to plant land taken out of cotton acreage to other crops. In the Delta area this should make soybeans and corn attractive substitute crops.

It must be repeated that the national average price support for corn for 1959 in all areas outside the old commercial corn belt will be sharply higher than last year. Even in the old commercial corn belt the new level of support will be higher than the low level loan which USDA made available for non-compliers with acreage allotments.

## POTASH

(Continued from page 1)

taking more than 150,000 tons K<sub>2</sub>O during the year. Because of shipments across state lines, consumption does not necessarily correspond to deliveries within a state.

Agricultural potash accounted for nearly 95% of deliveries. Muriate of potash continued to be the most popular material, comprising over 93% of the total K<sub>2</sub>O delivered for agricultural purposes. Sulphate of potash and sulphate of potash magnesia comprised 7%.

Deliveries for non-agricultural purposes in 1958 were 176,874 tons of muriate of potash containing an equivalent of 111,153 tons K<sub>2</sub>O, 10,849 tons of sulphate of potash containing 5,470 tons K<sub>2</sub>O, and 8,659 tons of manure salts containing 2,084 tons K<sub>2</sub>O. The total non-agricultural deliveries of 118,707 tons K<sub>2</sub>O were

about 5% of all potash deliveries and 10,810 tons or nearly 8% under 1957.

During the fourth quarter of 1958, deliveries for agricultural purposes were 602,216 tons K<sub>2</sub>O in continental U.S., 46,104 tons in Canada, 7,702 tons in Cuba, 3,481 tons in Puerto Rico and 5,074 tons in Hawaii, making a total of 664,577 tons K<sub>2</sub>O, an increase of 31% over last year. These figures include imports from Europe during July through December. Exports of potash to other countries during the fourth quarter were 47,095 tons K<sub>2</sub>O, an increase of 23,011 tons or 95% over 1957.

Deliveries of potash for non-agricultural purposes were 37,594 tons K<sub>2</sub>O, an increase of over 9%. Total deliveries for the fourth quarter were 1,280,999 tons of salts containing an equivalent of 749,266 tons K<sub>2</sub>O, an increase of 30% in salts and 33% in K<sub>2</sub>O over previous year.

In addition to the regularly reported deliveries on the quarterly basis, information from governmental and

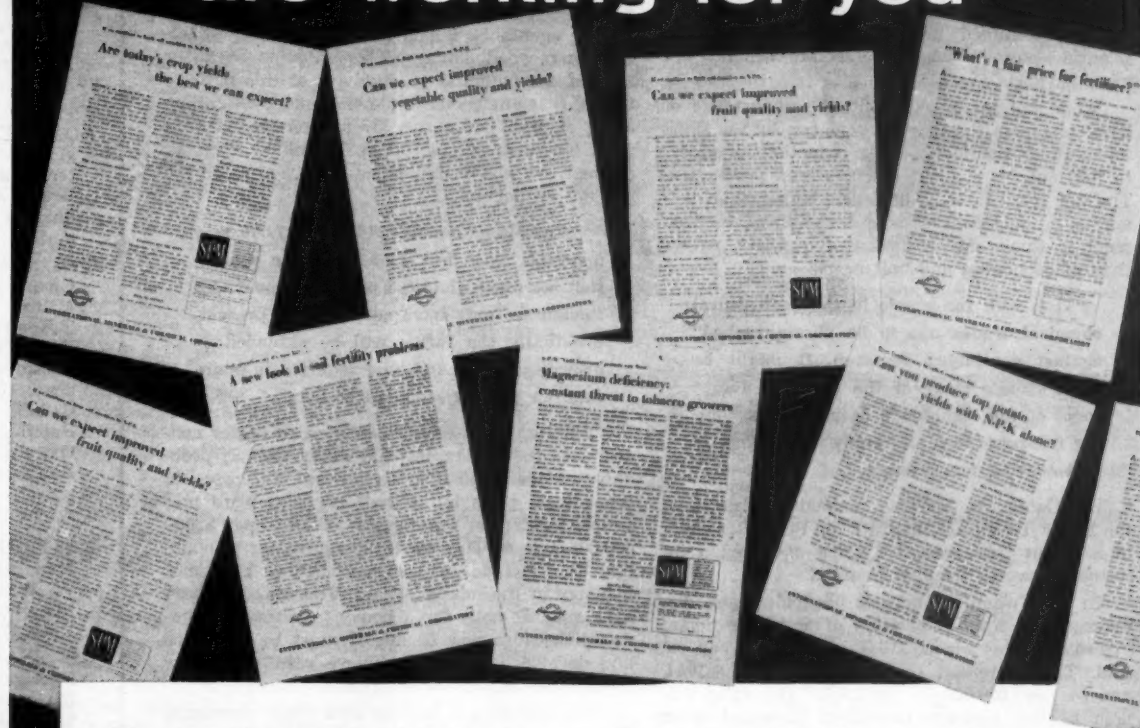
other sources indicates that during July through December, 1958, there were imports of European potash into the U.S., Canada, Cuba and Puerto Rico of 113,594 tons K<sub>2</sub>O as muriate of potash and 26,365 tons K<sub>2</sub>O as sulphate of potash. These figures are included in the deliveries for the fourth quarter.

## SPRAY PROGRAM

(Continued from page 1)

interest of saving our animals and birdlife." Latest to join the list are the Memphis Civitan Club and the Memphis Dachshund Club. George Bates, president of the local Humane Society, reported that both Rep. Clifford Davis and Sen. Albert Gore of Tennessee have written him saying they were asking for a full report from the USDA on its spray programs and what damage was resulting.

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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Southern states.

## PLEA FOR MORE STUDY . . .

### Continuation of Agricultural Research Is Regarded as Costly but Necessary Factor

ARTICLES in some of the popular magazines, syndicated columnists and others who influence public opinion seem to favor curtailment of agricultural research efforts on the grounds that we are already raising more than the nation can consume and we ought to quit learning more about farm efficiency. Funds being spent for research could much better be earmarked for space travel or some other study, they say, but certainly not for finding better and more efficient ways to grow food and fiber. And anyway, the argument goes, technically-trained minds are needed in other scientific pursuits where immediate benefits are more obvious.

While not many will deny the importance of development in the physical sciences, by the same token there should not be a reduction in efforts to find out more about efficient crop production. The key word here is efficiency, rather than volume of production. Critics of agricultural research seem to think only in terms of quantity, rather than of economics and unit costs.

It is well for people in the agricultural chemical trades not to be "brain-washed" against continuing research. It might be easy, at this stage of the game, to forget some of the significant developments coming from research and study in the field of pest control, for example.

Dr. George L. McNew, managing director of the Boyce Thompson Institute for Plant Research, in a recent talk presented some background information worth keeping in mind.

In 1937, when the organic pesticides were discovered, the total production of active pesticidal ingredients was about 215,000,000 lb. a year, he said. This increased to 513,000,000 lb. by 1944, and to 1,025,000,000 lb. by 1954. "The sales volume of the primary producers increased from about \$35,000,000 in 1940, to \$185,000,000 in 1955. This market represents an investment of over \$300,000,000 in agricultural and other pest control chemicals by the ultimate consumer," he reported.

Yet, the record of mere volume of chemical compounds is not a particularly accurate manner of measuring the benefits of these materials to the general economy. The newer compounds are so much more effective than the products they replaced, that a pound usually did the work of from 4 to 15 pounds. Over 25 of the compounds discovered and developed during this period have gained multi-million pounds of sales, Dr. McNew pointed out.

Naturally, the cost of developing new chemical products has increased greatly. Part of the cause is inflation, as reflected in the cost of maintaining one scientist with one technical assistant from the \$11,000 of the World War II era, to a minimum of \$25,000 to \$35,000 today. "Furthermore, it is more difficult to make discoveries because the simpler, more obvious compounds have been tested and the standards of performance have increased with each new discovery. At the same time, there has been a heavier development cost as the requirements for toxicological data and field residue records have increased."

Dr. McNew brought out still other points which should be emphasized. He reminded that despite added difficulties and expense, progressive com-

panies are forging ahead with new discoveries every year. He mentioned a number of new insecticides, fungicides, nematocides, herbicides and systemic pesticides as examples of how research has brought outstanding results.

"It would be foolish to weaken or lose heart in the great research effort. As a matter of national policy this country cannot afford to be satisfied with what has been achieved," Dr. McNew continued. "In crops alone there are losses today that would aggregate at least \$3 billion from plant disease agents, \$2 billion from insects and \$4 billion from weed damage. This amounts to about 21% of the potential productivity of this nation's farms. It is analogous to plowing under 88 million acres of crops from the 457 million seeded each year. There is an additional 32 million acres of productivity lost in transit and storage after the produce is harvested.

"In this nation we add about 7,000 new appetites each day. In a year, the population increases almost 3 million persons. Although we may have surpluses at present, eventually the farms will be extended to provide the food and fiber required to maintain our present standard of living.

"Finally, the farmer is entitled to better control over the adversities that afflict him. It probably will be impossible to prevent all losses to crops from pests but if half of them were prevented the farmer could easily afford to pay \$200,000,000 a year. This would be equivalent to doubling the volume of the agricultural chemicals industry in the next 25 years. This should be set as a goal. It calls for a heavy investment in research because new chemicals must be conceived and developed that will achieve results not now possible but crying for solution.

"The question is how to find these chemicals. The research man much conceive and develop new candidate materials with greater efficiency than has been possible by the strictly empirical methods of the past. The empiricism of merely making and testing materials must be replaced or augmented insofar as possible by deductive reasoning and skillful intuition. This calls for development of basis principles as to how chemicals operate to destroy the living cells, selectively.

"Unfortunately, the basic principles are so imperfectly understood that empirical methods must still be used to pry open the door of knowledge in finding new leads. Once the lead is found, however, certain concepts can be applied by analogy and deductive reasoning to guide the research in designing a more effective biological chemical."

Some agricultural observers have expressed the belief that research has merely begun in the areas of plant nutrition, pest control, agronomy, control of plant diseases and weeds. Obviously, with economic losses of the magnitude described by Dr. McNew, there remains still a great deal to learn about the control of these factors.

The economics of fertilizer use from the standpoint of reducing unit costs of agricultural products is another area needing more study. Too many people think of fertilizers and surpluses as being in the same category. Here, too, a public relations job is needed.



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LAWRENCE A. LONG

Editor

DONALD NETH

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# MEETING MEMOS

June 23-25—Pacific Branch, Entomological Society of America, 43rd annual meeting, El Dorado Hotel, Sacramento, Cal. Dr. Leslie M. Smith, University of California, Davis, branch chairman.

Meeting Memos listed above are being listed in this department this week for the first time.

March 24-25—National Plant Food Institute Forest Fertilization Research Advisory Committee meeting, Atlanta, Ga.

March 25-27—North Central Branch, Entomological Society of America, Annual Meeting, Nell House Hotel, Columbus, Ohio, C. W. Wingo, 102 Whitten Hall, University of Missouri, Columbia, Secretary-Treasurer.

April 1-3—Twenty-fourth Annual Chemurgic Conference, Congress Hotel, Chicago, Ill.

April 8-11—Symposium on forest soils, Louisiana State University, Baton Rouge, La.

April 29-30—Symposium on transportation, regulation and packaging of chemical products, sponsored by the Manufacturing Chemists' Assn., Engineering and Scientific Center, Cleveland, Ohio.

June 9-10—Seventeenth Annual Convention of the Association of Southern Feed and Fertilizer Control Officials, Velda Rose Motel, Hot Springs, Ark.; Maurice Rowe, Virginia Department of Agriculture, 1122 State Office Bldg., Richmond 19, Va.

June 14-17—National Plant Food Institute, Annual Convention, the Greenbrier, White Sulphur Springs, W. Va.

June 29-30—Seventh Annual California Fertilizer Conference, University of California campus, Davis, Cal. J. H. Nelson and Earl R. Mog, co-chairmen.

July 7-9—Regional Fertilizer Conference, co-sponsored by the Pacific Northwest Plant Food Assn. and state colleges and universities in the area, Winthrop Hotel, Tacoma, Wash.

July 29—Annual Kentucky Fertilizer Conference, Guignol Theater, University of Kentucky campus, Lexington, Ky.

Aug. 3-7—Gordon Research Conference on biochemistry in agriculture, Kimball Union Academy, Meriden, N.H.

Oct. 14-16—Pacific Northwest Plant Food Assn. Annual Convention, Chinook Hotel, Yakima, Wash.

Oct. 21-23 — National Agricultural

Chemicals Assn., 26th annual meeting, French Lick-Sheraton Hotel, French Lick, Ind., Lea S. Hitchner, executive secretary.

Nov. 4-6—Fertilizer Industry Round Table, Mayflower Hotel, Washington, D.C. Dr. Vincent Sauchelli, National Plant Food Institute, chairman.

Nov. 9-11 — California Fertilizer Assn., 36th annual convention, Fairmont Hotel, San Francisco.

Nov. 16-20 — National Aviation Trades Assn., 20th annual convention, New Orleans, La.

Dec. 9-11—International Crop Protection and Pest Control Exhibition, Seymour Hall, St. Marylebone, London, England.

## Montana Increases Use Of Chemical Weeding

BOZEMAN, MONT.—Chemical treatment of weeds in small grains is showing a steady increase in Montana, reports Eugene Heikes, extension service weed specialist at Montana State College here.

With 52 of the state's 56 counties reporting, total acreage treated last year amounted to 3,322,882 or 56.5% of the acreage seeded to small grains. This compares, Mr. Heikes said, with 3,250,000 acres, or 40% of seeded acreage treated in 1953 when compiling of figures on treated acreage was first started.

The weed specialist also notes the trend away from soil sterilants in favor of 2,4-D. In 1953 weed districts used 234,000 lb. of soil sterilants and 11,425 gal. of 2,4-D.

Last year districts reported using 29,253 gal. of 2,4-D and 28,362 lb. of sterilants. This is in line with recommendations on chemical weed control, Mr. Heikes stated.

Of 29 counties having weed control districts organized under state law, 25 report a total of \$306,773 budgeted for weed control work in 1958-59.

## New Label Claims For Crag Glyodin

NEW YORK — Two new label claims for Crag Glyodin have been accepted by the U.S. Department of Agriculture, Dr. R. H. Wellman, manager, Crag Agricultural Chemicals, Union Carbide Corp., has announced.

Dr. Wellman said Glyodin's commercial label now recommends the fruit fungicide for use in combination with sulfur or "Karathane" for control of apple mildew and scab. The other Glyodin label claim is for pear scab control. It is similar to the apple scab control recommendation—one quart of Glyodin should be used per 100 gal. of spray mixture in early-season sprays, followed by one to one-and-a-half pints in cover sprays if primary scab has been controlled.

## Eight Weed Meetings Set for Oregon Cities

PORTLAND, ORE.—A series of weed meetings to aid licensed operators, highway crews and others do a better control job will be held the latter part of March and the first three days of April in eight Oregon cities.

The State Highway Department and Oregon State College are assisting sponsoring state agricultural department with the program. County extension agents will chairmen the local meetings and discuss problems peculiar to their areas.

Mark Astrup and W. H. Koesan of the highway department will appear at each meeting to discuss that department's weed control program and highway spraying.

Rex Warren of the college extension service staff will present latest information on chemicals. Don Burgoyne, with DuPont Chemical Co. in San Francisco, will stress the relation of good weed control and good equipment.

Ral Kelso of the State Department of Agriculture will review spray damage problems experienced last year and George Moose, also of the department, will talk on the state's ragweed control program.

Commercial applicators may take state examinations at any of the sessions.

All meetings, except at Hillsboro, will open at 9:30 a.m. The schedule: Gresham—March 24, at the Multnomah county shops; Hillsboro—10 a.m., March 25 at city hall; Tillamook—March 26, at county fairgrounds; Salem—March 27, at state department of agriculture conference room; Eugene—March 31, at Lane county fairgrounds; Roseburg—April 1, at courthouse; Medford—April 2, at Jackson county fairgrounds, and Klamath Falls—April 3, at Klamath county fairgrounds.

## Classified Ads

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## MISCELLANEOUS

**FOR SALE** — 900 32"x48" HARDWOOD pellets, loaded twice, five 4" top boards, three runners, two 4" bottom boards, long screw nails used. C. Roy Curtis & Son, Inc., Marion, New York.

## BRUSH AND WEED KILLER

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## NEW IRON CHELATE

ARDSLEY, N.Y. — Geigy Agricultural Chemicals announced the commercial introduction of Sequestrene 138 Fe iron chelate. The problem of iron deficiency in the alkaline soils of southern California and Arizona has been important to citrus growers and a serious limiting factor in production, a spokesman said.

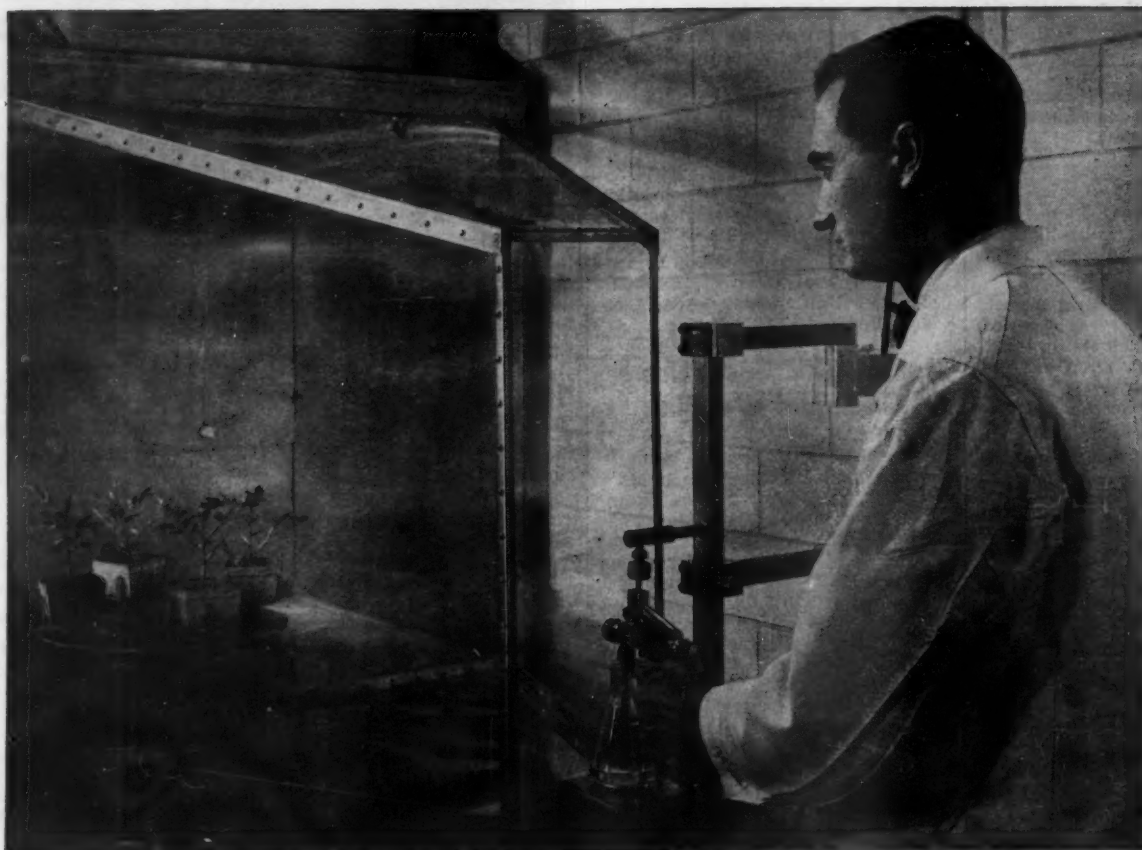
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MARCH	APRIL	MAY	JUNE
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
1 2 3 4 5 6 7	1 2 3 4	1 2	1 2 3 4 5 6
8 9 10 11 12 13 14	5 6 7 8 9 10 11	3 4 5 6 7 8 9	7 8 9 10 11 12 13
15 16 17 18 19 20 21	12 13 14 15 16 17 18	10 11 12 13 14 15 16	14 15 16 17 18 19 20
22 23 24 25 26 27 28	19 20 21 22 23 24 25	17 18 19 20 21 22 23	21 22 23 24 25 26 27
29 30 31	26 27 28 29 30	24 25 26 27 28 29 30	28 29 30
		31	
JULY	AUGUST	SEPTEMBER	OCTOBER
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
1 2 3 4	1	1 2 3 4 5	1 2 3
5 6 7 8 9 10 11	2 3 4 5 6 7 8	6 7 8 9 10 11 12	4 5 6 7 8 9 10
12 13 14 15 16 17 18	9 10 11 12 13 14 15	13 14 15 16 17 18 19	11 12 13 14 15 16 17
19 20 21 22 23 24 25	16 17 18 19 20 21 22	20 21 22 23 24 25 26	18 19 20 21 22 23 24
26 27 28 29 30 31	23 24 25 26 27 28 29	27 28 29 30	25 26 27 28 29 30 31
	30 31		
NOVEMBER	DECEMBER	JANUARY	FEBRUARY
S M T W T F S	S M T W T F S	S M T W T F S	S M T W T F S
1 2 3 4 5 6 7	1 2 3 4 5	1 2	1 2 3 4 5 6
8 9 10 11 12 13 14	6 7 8 9 10 11 12	3 4 5 6 7 8 9	7 8 9 10 11 12 13
15 16 17 18 19 20 21	13 14 15 16 17 18 19	10 11 12 13 14 15 16	14 15 16 17 18 19 20
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